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THE INC.100

1986's Fastest-Growing Small Public Companies

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MAY 1986
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COVER
Computer generated by Colburn/Blazok

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SPEAKING TERMS

Computers Get Together Bit By Byte

USER-FRIENDLY THOUGH THEY might be, many computers aren't speaking to one another. Their incompatibility has been wreaking havoc in many offices, but that situation may be about to change.

Thirty computer producers and users have joined to launch Corporation for Open Systems (COS), a nonprofit business that will try to accelerate the adoption of international standards, which will enable computers made by different companies to communicate with one another. A successful effort—not a sure thing at this point, but looking more realistic as such companies as IBM Corp. and General Motors Corp. join the ranks—would be a milestone for both manufacturers and users.

CURT DOTY

Users have long wanted the capability to connect various computers into networks for the exchange of data. GM, fed up with incompatibility problems, last year adopted a communications standard for new computers purchased for use in its factories. Customers are demanding the same for office computers. "This is a top-down initiative," says Norman Dawson, marketing vice-president at Control Data Corp. "It's coming about as a result of chief executive officers saying, 'We've got to get our act together.' "

Although COS is the offspring of big companies, its success could be good news for small, struggling computer firms. "Their biggest barrier has been users' fear of ending up stranded with products that won't work with what they've got, made by a company that isn't around anymore," says A. G. W. Biddle, president of The Computer & Communication Industry Association. "If a certificate can assure a customer that what he's buying will function as a component of a multivendor system, new opportunities for creative design and marketing will open up."

COS is selecting from among existing standards. It will create compliance tests and establish certification processes for computers and communications products and services. Small companies that adopt the standards will not have to sacrifice the ability to innovate with various features—a major competitive advantage. *—Nell Margolis*

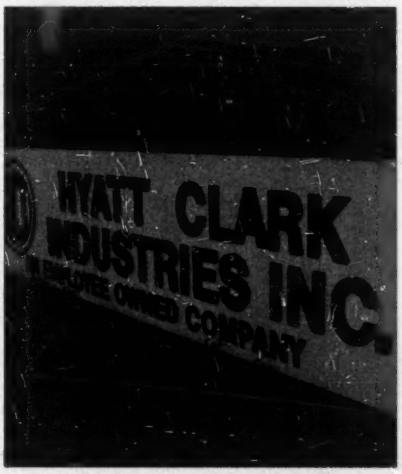
SCORECARD

By Joshua Hyatt

ARE ESOPS FEEBLE?

Hyatt-Clark Industries Inc. filed for Chapter 11 protection last January, but its misfortune didn't prove that employee equity is a bankrupt idea.

In 1981, the ball-bearings maker became America's largest employee-owned company. But the move didn't bring harmony. The 1,100 owner-employees bickered constantly with management and even staged a slowdown. "They had difficulty understanding that anytime you act in a negative way, you are acting against yourself," says Douglas Fraser, retired president of the United Auto Workers and a company director.



KEITH GLASCOW

Despite this prominent casualty, the number of employee stock ownership plans will increase more rapidly in the years ahead. Joseph Blasi, a lecturer in social studies at Harvard University, estimates that more than 10% of workers will toil in companies that are at least 15% employee-owned within 50 years—a level of ownership that may give them real influence. Most existing ESOPs cover ownership of far less than 15%.

The majority of ESOPs with more than 15% ownership occur in small companies in which owners have no successors and want to leave the business in trusted hands. Business owners are also attracted by the tax advantages of selling to employees; the number of ESOPs soared after tax breaks were passed in 1984.

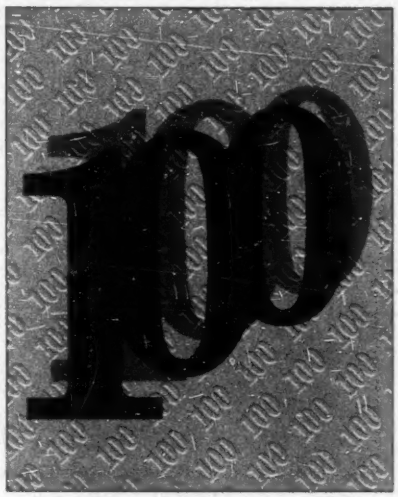
The plans are common in deregulated industries like trucking and airlines, where competitive pressures force labor to accept concessions in return for equity. Blasi predicts that the next wave of ESOPs will be in banking. And the United Steelworkers of America will be asking for more equity as it hammers out new contracts this year.

Here are the figures behind the growth of employee stock ownership plans since 1980, as estimated by the National Center for Employee Ownership.

Year	Number of ESOPs	Employees in ESOPs (in millions)
1980	5,100	7.0
1981	5,500	7.4
1982	5,900	7.7
1983	6,360	8.6
1984	6,800	10.2
1985	8,000	11.5

INTRODUCING THE 1986 INC. 100

INC. 100:	
Number of companies by sector	
Manufacturing	55
Service	26
Mining (including oil and gas)	6
Wholesale and distribution	6
Retail	7
Total sales 1985 (million)	$6,044
Change 1981–85	2,773%
Total net income 1985 (million)	$79.2
Total net income 1981 (million)	($32.8)
Median sales 1985 (million)	$21.40
Median sales 1981 (million)	$0.65



INC. 100:	
Compound annual sales growth rate (1981–85)	
Total sales	131.52%
Range	81.47%–411.94%
Net income as a % of sales (1985)	
Range	loss to 0.02%–24.12%
Median	3.47%
No. acquiring other companies (1981–85)	49
No. founded since 1976	84
Median number of employees	
1985	207
1981	25
Change 1981–85	600.81%

Like a bunch of adolescents, the companies on the INC. 100 are an unsettled lot. They have grown so fast that their knees ache. They have consumed capital voraciously, but most haven't yet produced much income. They have come a long way—but their future is as much in doubt as ever.

An exaggeration? No. The typical company on this year's list of the 100 fastest-growing small public companies in America is less than 10 years old. Since 1980, its revenues have grown 2,773%, and it has added an average of nine new employees every *month*. Last year alone, the 10 companies that went public raised approximately $100 million. But nearly a third of the companies on the list are still losing money.

As to the future—well, this year marks INC.'s eighth listing of the 100, and what happens to the list's alumni is by now pretty well established. Some few companies continue their hectic growth and, like Apple Computer Inc. (1982, #1; 1983, #5), take their place on the rosters of the nation's largest enterprises. Many more slow down, and grow into midsize middle age. Still others are grist for the mergers-and-acquisitions mill, or fade away into the nether reaches of bankruptcy court. Like a senior class the day after graduation, companies on an INC. 100 list are filled with possibilities. But only a few are candidates for Most Likely to Succeed.

Whatever the future holds for these companies, though, the past and present of this year's INC. 100 reveal much about the wellsprings of growth—and about how growing companies can and should do business.

Think back, for example, to the turn of

INC. 100 EDITED BY STEPHEN D. SOLOMON

the decade, when many of the companies on the list were founded. Jimmy Carter was using the word "malaise" to describe the nation's state of mind right about then, and few were disagreeing. But some entrepreneurs saw beyond double-digit inflation and record interest rates to spot opportunities in fast-changing segments of the economy. "Aah, Those Were the Days" (page 69), by senior writer Joseph P. Kahn and senior editor Stephen D. Solomon, looks back and—with the indisputable advantage of hindsight—shows why those opportunities turned out to be pockets of hypergrowth. Maybe those who learn this history well enough will get the chance to repeat it.

To be sure, spotting an opportunity is one thing; making money on it is another. And while every one of the 100 companies on this year's list identified and took advantage of an opportunity, nearly a third of them lost money last year. Does fast growth necessarily mean lean—or negative—income? Is the trade-off between market share and profitability inevitable? Senior writer Tom Richman, in "Seeing Red" (page 77), picks apart the income statements of a selection of companies to show why so many rapidly growing enterprises lose money—and why, in some cases, losing money isn't such a bad thing in a company's early years.

To an investor, of course, losing money is *always* bad, and there's no surer way to do so than to invest carelessly in fast-growing companies. Between March 1985 and this past March, for example, the Dow Jones Industrial Average rose 31%, yet 53 of this year's 100 companies watched their stocks decline over the same period. So the trick is to separate the stars from the dogs. In "Look Before You Weep" (page 83), senior writer Robert A. Mamis offers some tips to investors in growth companies, and shows how the nation's most successful growth-stock pickers go about their business.

Behind the unusual numbers of an INC. 100 company are some equally unusual characters. Dr. Robert Jarvik, for example, the famous inventor of the Jarvik-7 artificial heart, whose company posted revenue of $5.7 million last year despite a product that has been called unreliable, unethical, and downright dangerous. Or Irwin Selinger, who is the first chief executive officer to found and lead two different companies on the list. Or Ben Cohen, who plays Ping-Pong at board meetings and takes home a salary of only $50,000. You'll meet many such personalities in "The INC. 100 Portfolio" (page 51).

Finally, in "Line Items," (page 62) we break out a number of bite-size facts, trivial and otherwise. How many founders are still running INC. 100 companies? Which company provides the most unusual benefit? Which CEO used to be a piano distributor in North Dakota?

Study hard. There will be a test on Thursday.—*Virginia Inman*

HOW THE INC. 100 ARE SELECTED

The 1986 INC. 100 is the eighth annual ranking of the 100 fastest-growing publicly held smaller companies in the United States. Companies are ranked by the percentage increase in net sales (or total revenues) over a five-year period—in this case, 1981 to 1985.

■ To be considered for the INC. 100, each company must meet the following criteria:

1. The company is an independent corporation. Banks and utilities are excluded.

2. The company was publicly held as of December 31, 1985.

3. The company shows an operating/sales history of at least five years.

4. The company's 1985 sales exceeded its 1984 sales. Companies showing growth over the five-year period but a decline in 1985 sales are disqualified.

5. The company's 1981 sales were at least $100,000 but no more than $25 million.

■ The INC. 100 research staff used company prospectuses, 10-Ks, annual reports, and various directories to maintain the in-house database of publicly held smaller companies. INC. narrowed the list by applying the five criteria listed above, and by using a five-year growth cutoff of 600%. INC. then conducted telephone interviews with executives of each qualifying company to verify the figures.

■ An editorial research team led by special projects editor Sara Baer-Sinnott selected the 1986 INC. 100. The research was conducted by Sarah Clifford, Andrew J. F. Hamilton, and Rachel Leahey. They were assisted by research assistant Deborah L. Merritt, administrative assistant Ruth Keren, and interns Bonnie Barber, Beatrice Bast, Lisa Lee Freeman, and Lisa Poller. The published material is the only information INC. will make available.

INC. 100 INDEX

Company (rank)	Company (rank)	Company (rank)
ALC Communications (3)	Convergent Technologies (39)	New York Film Works (47)
Action Packets (86)	DEST (67)	ORS Automation (35)
Alexander Energy (34)	Datacopy (77)	1 Potato 2 (12)
Allegheny & Western Energy (19)	Durakon Industries (78)	Patient Technology (41)
Alta Energy (85)	Electronic Tele-Comm. (36)	Personal Diagnostics (57)
American Businessphones (6)	Endevco (16)	Piezo Electric Products (2)
American Healthcare Mgmt. (69)	Energy Oil (8)	Plains Resources (88)
American Surgery Centers (29)	Enzo Biochem (100)	Priam (68)
Amgen (58)	Equatorial Communications (10)	Reid-Ashman (98)
Animed (80)	Expeditors Int'l of Washington (7)	SIS (50)
Apollo Computer (14)	FONAR (82)	Saratoga Standardbreds (32)
Applied Circuit Technology (94)	Fibronics International (28)	Shanley Oil (11)
Archive (26)	First Centennial (45)	Simmons Airlines (46)
Artel Communications (42)	Forum Group (1)	Solar Age Industries (27)
Ashton-Tate (4)	Fuddruckers (25)	StarTel (83)
Avant-Garde Computing (81)	G. D. Ritzy's (54)	Sterling Software (30)
Ben & Jerry's Homemade (74)	Harvard Industries (72)	Symbion (43)
Biomet (71)	HealthAmerica (20)	Telco Systems (51)
Brentwood Instruments (40)	Helm Resources (65)	Telebyte Technology (90)
Buffton (33)	High Plains (61)	Tender Loving Care (93)
C. P. Rehab (75)	IDEA (96)	Thermal Profiles (79)
Cade Industries (18)	Insituform of North America (89)	3Com (13)
Caremark (76)	Integrated Genetics (21)	Time Energy Systems (37)
Centocor (38)	Interand (92)	U. S. Intec (15)
Certified Collateral (31)	Iomega (5)	Ungermann-Bass (66)
Ciprico (55)	Jack Henry & Associates (97)	United HealthCare (49)
Circadian (59)	Jacor Communications (73)	V Band Systems (22)
Comp-U-Card Int'l (48)	Jet America Airlines (24)	VLSI Technology (9)
Compression Labs (62)	King World Productions (64)	Vitronics (44)
Computer Telephone (53)	LyphoMed (52)	Walker Telecommunications (17)
ComputerCraft (60)	MBI Business Centers (70)	Western-World Television (56)
Consolidated Stores (84)	Manufactured Homes (99)	The Yankee Cos. (95)
Consul Restaurant (87)	Medical Care Int'l (63)	Ziyad (91)
	Medical Electronics (23)	

100

1.		**FORUM GROUP** (Indianapolis, IN)	68,585%	412%	$177,207	$258	$33,893	$1,305
2.		**PIEZO ELECTRIC PRODS.** (Cambridge, MA)	30,965	320	76,420[e]	246	(22,200)	(1,800)
3.		**ALC COMMUNICATIONS** (Chicago, IL)	24,327	295	467,293	1,913	(27,125)	(1,312)
4.		**ASHTON-TATE** (Culver City, CA)	17,595	265	82,281	465	7,463	40
5.		**IOMEGA** (South Roy, UT)	17,415	264	116,474	665	14,894	(3,779)
6.		**AMERICAN BUSINESSPHONES** (Irvine, CA)	16,080	257	18,283	113	678	12
7.	2	**EXPEDITORS INT'L OF WASHINGTON** (Seattle, WA)	14,980	250	66,049	438	2,865	19
8.		**ENERGY OIL** (Longmont, CO)	14,529	248	15,068	103	2,975	(310)
9.		**VLSI TECHNOLOGY** (San Jose, CA)	14,126	245	78,671	553	16	(1,478)
10.		**EQUATORIAL COMM.** (Mountain View, CA)	10,311	219	56,115	539	1,087	(2,302)
11.		**SHANLEY OIL** (Dallas, TX)	10,056	217	26,000[c]	256	115[c]	(1,376)
12.	11	**1 POTATO 2** (New Hope, MN)	10,055	217	15,436	152	(6,043)	3
13.	22	**3COM** (Mountain View, CA)	9,050	209	46,300	506	5,033	(124)
14.		**APOLLO COMPUTER** (Chelmsford, MA)	8,593	205	295,575	3,400	(1,516)	(2,992)
15.		**U.S. INTEC** (Port Arthur, TX)	8,475	204	47,506	554	3,844	(320)
16.	9	**ENDEVCO** (Dallas, TX)	6,984	190	155,287	2,192	3,681	336
17.	13	**WALKER TELECOMMUNICATIONS** (Plainview, NY)	6,867	189	33,718[c]	484	192[9]	186
18.		**CADE INDUSTRIES** (Marinette, WI)	6,426	184	32,500[c]	498	1,425[9]	61
19.		**ALLEGHENY & WESTERN ENERGY** (Charleston, WV)	6,398	184	270,458	4,162	12,491	1,078
20.		**HEALTHAMERICA** (Nashville, TN)	6,092	181	462,846	7,475	11,468	(1,677)
21.		**INTEGRATED GENETICS** (Framingham, MA)	5,684	176	7,288	126	(3,736)	(527)
22.		**V BAND SYSTEMS** (Yonkers, NY)	5,648	175	18,394	320	2,350	(391)
23.		**MEDICAL ELECTRONICS** (Boulder, CO)	5,608	175	6,850[c]	120	700	(77)
24.		**JET AMERICA AIRLINES** (Long Beach, CA)	5,112	169	102,000	1,957	(8,100)	(3,243)
25.	15	**FUDDRUCKERS** (San Antonio, TX)	4,909	166	53,000[c]	1,058	572[9]	59
26.		**ARCHIVE** (Costa Mesa, CA)	4,773	164	57,845	1,187	1,034	(842)
27.		**SOLAR AGE INDUSTRIES** (Albuquerque, NM)	4,658	163	15,320	322	549	23
28.	40	**FIBRONICS INTERNATIONAL** (Hyannis, MA)	4,512	161	25,460	552	2,085	(197)
29.		**AMERICAN SURGERY CENTERS** (Scottsdale, AZ)	4,454	160	4,600[c]	101	(522)[c]	(103)
30.		**STERLING SOFTWARE** (Dallas, TX)	4,241	157	60,550	1,395	2,923	234
31.		**CERTIFIED COLLATERAL** (Chicago, IL)	4,175	156	7,268	170	1,753	(701)
32.		**SARATOGA STANDARDBREDS** (N. Salem, NY)	4,051	154	4,732	114	246	(38)
33.	3	**BUFFTON** (Fort Worth, TX)	3,965	153	48,216	1,186	893	184
34.		**ALEXANDER ENERGY** (Oklahoma City, OK)	3,224	140	8,576	258	476	149
35.		**ORS AUTOMATION** (Princeton, NJ)	3,153	139	4,750[c]	146	(2,164)[9]	(839)
36.		**ELECTRONIC TELE-COMM.** (Waukesha, WI)	3,139	139	4,696	145	920	(77)
37.		**TIME ENERGY SYSTEMS** (Houston, TX)	2,972	135	14,100[c]	459	1,389	191
38.		**CENTOCOR** (Malvern, PA)	2,941	135	22,355	735	3,462	(898)
39.	1	**CONVERGENT TECHNOLOGIES** (San Jose, CA)	2,915	134	395,167	13,105	11,513	777
40.		**BRENTWOOD INSTRUMENTS** (Torrance, CA)	2,882	134	6,083	204	463	(1)
41.		**PATIENT TECHNOLOGY** (Hauppauge, NY)	2,834	133	24,789[c]	845	(8,043)[9]	(164)
42.		**ARTEL COMMUNICATIONS** (Worcester, MA)	2,791	132	6,013	208	385	22
43.		**SYMBION** (Salt Lake City, UT)	2,766	131	5,704	199	(2,943)	10
44.		**VITRONICS** (Newmarket, NH)	2,752	131	3,707	130	54	(48)
45.		**FIRST CENTENNIAL** (Fort Collins, CO)	2,750	131	3,705	130	(773)	(58)
46.	18	**SIMMONS AIRLINES** (Chicago, IL)	2,730	131	48,673	1,720	1,950	(399)
47.		**NEW YORK FILM WORKS** (New York, NY)	2,674	130	5,410	195	(796)	(213)
48.		**COMP-U-CARD INTERNATIONAL** (Stamford, CT)	2,598	128	28,679	1,063	3,140	(1,912)
49.		**UNITED HEALTHCARE** (Minnetonka, MN)	2,595	128	110,222	4,090	2,835	181
50.		**SIS** (Westlake, OH)	2,548	127	13,478	509	4	(21)

NA: 12-month figure not available at press time; NM: negative return on equity; i: INC. estimate; c: company estimate; 9: nine-month figure

$98,683	47.15%	5,159	1,097	6	1967	1981	Y	6%	Health-care svcs.
16,816[9]	NM	500	150	3	1980	1983	Y	6	Sale & application of electronic tech.
13,428	NM	2,290	155	0	1980	1985	N	1	Long-distance telephone svc.
29,950	33.52	459	4	2	1980	1983	N	3	Designs/mfrs. microcomp. software prods.
50,795	72.53	1,154	105	0	1980	1983	N	1	Mfrs. disk drives
5,608	67.58	236	1	1	1980	1984	Y	34	Distrs./svcs. business phones
11,076	35.50	275	90	2	1979	1984	Y	22	Int'l air-freight forwarding
7,679	63.11	45	6	3	1978	1983	Y	29	Oil & gas explor.
98,477	0.02	820	40	0	1979	1983	N	5	Mfrs. integrated circuits
102,177	2.13	672	25	1	1979	1983	Y	4	Mfrs. micro earth stations
9,571[9]	1.20	435	100	10	1980	1983	Y	65	Oil & gas devel., food marts
1,803	NM	70	30	0	1977	1983	N	0	Quick-service restaurant
24,702	25.67	274	22	0	1979	1984	N	6	Mfrs. LAN systs.
174,000	NM	3,200	200	0	1980	1983	N	1	Mfrs. computer systs.
17,347	63.41	185	9	0	1980	1985	Y	29	Mfrs. single-ply roofing materials
16,118[c]	29.41	82	35	3	1977	1983	Y	17	Oil & gas explor./devel.
12,208[9]	1.73	100	3	1	1978	1983	Y	14	Distrs. electronic key telephone systs.
13,475[9]	34.14	975	15	3	1980	1984	Y	32	Mfrs. aerospace component parts
33,440	61.68	518	30	1	1981	1981	Y	3	Natural gas explor. & devel.
94,858	15.07	4,000	150	12	1980	1983	Y	14	National HMO
16,069	NM	138	16	0	1981	1983	N	4	Devels. diagnostic & therapeutic prods.
10,321	36.18	130	25	2	1977	1984	Y	31	Mfrs. telecommunications terminal equip.
1,965[9]	93.69	29	3	1	1981	1982	Y	4	Mfrs./sells microwave hypothermia equip.
6,700	NM	750	200	0	1980	1981	Y	2	Airline
16,454	3.98	3,000	100	0	1979	1983	N	4	Restaurant operator & franchisor
31,601	3.39	607	74	0	1980	1983	Y	4	Mfrs. cartridge tape drives
1,050	108.25	78	25	0	1979	1985	Y	26	Mfrs. solar-heating prods.
21,263	24.84	425	40	0	1977	1983	Y	10	Mfrs. fiber-optic communications systs.
3,200[c]	NM	94	6	3	1976	1980	N	3	Ambulatory surgery centers
36,621	11.16	2,950	50	8	1981	1983	Y	10	Mfrs. computer software prods. & svcs.
14,354	46.41	208	18	0	1980	1983	Y	4	Mgmt. info. svcs. to auto insurance cos.
4,859	5.33	60	30	1	1981	1984	Y	10	Standardbred & harness horses
13,789	6.99	700	25	3	1980	1981	N	4	Mfrs. plastic prods., electr. cables
14,765	3.72	41	40	2	1980	1981	Y	24	Oil & gas explor. & devel.
317[9]	NM	100	18	0	1968	1981	N	1	Mfrs. CAD/CAM
4,026	86.44	54	5	0	1980	1985	Y	9	Mfrs. voice announcement systs.
46,040[9]	5.52	90	20	0	1978	1983	Y	17	Designs/installs energy-saving systs.
49,355	14.74	160	30	0	1979	1982	Y	9	Mfrs. diagnostic tests
228,000	5.40	1,994	150	0	1979	1982	N	2	Mfrs. computers & computing systs.
495	1,438.65	54	2	0	1977	1985	Y	46	Mkts./sells medical prods.
12,636[9]	NM	280	5	7	1981	1983	Y	7	Mfrs. health-care prods.
8,392[9]	4.89	80	9	0	1981	1983	Y	20	Mfrs. fiber-optic transmission systs.
16,681[9]	NM	65	5	0	1976	1983	Y	10	Mfrs. artificial organs
1,803	3.23	46	10	0	1981	1984	Y	22	Mfrs. infrared solder reflow systems
4,117	NM	28	4	1	1979	1982	Y	18	Life insurance
25,462	19.31	1,057	250	0	1974	1984	N	26	Regional airline
1,553	NM	135	30	2	1980	1984	Y	5	High-quality film processing
14,721	27.23	293	48	0	1973	1983	Y	2	Electronic shopping svc.
15,000	75.36	1,437	150	1	1974	1984	Y	31	HMO
3,862	0.10	650	100	0	1981	1983	Y	35	Country-style restaurants

1:Return on equity is calculated by dividing 1985 net income by 1984 year-end shareholder's equity.

51.	89	**TELCO SYSTEMS** (Menlo Park, CA)	2,457%	125%	$93,054	$3,639	($2,804)	($592)
52.		**LYPHOMED** (Chicago, IL)	2,440	124	68,000[c]	2,677	4,511[9]	167
53.		**COMPUTER TELEPHONE** (Wellesley Hills, MA)	2,383	123	7,100	286	251	(141)
54.	12	**G. D. RITZY'S** (Columbus, OH)	2,331	122	14,417[c]	593	(4,101)	(376)
55.		**CIPRICO** (Plymouth, MN)	2,310	122	8,171	339	821	(140)
56.		**WESTERN-WORLD TELEVISION** (Los Angeles, CA)	2,303	121	14,202	591	(102)[9]	(79)
57.		**PERSONAL DIAGNOSTICS** (Whippany, NJ)	2,207	119	9,229	400	(761)	(291)
58.		**AMGEN** (Thousand Oaks, CA)	2,046	115	10,130	472	(7,763)	(44)
59.		**CIRCADIAN** (San Jose, CA)	2,014	114	13,003	615	1,107	(884)
60.	8	**COMPUTERCRAFT** (Houston, TX)	2,013	114	137,237	6,496	(2,940)	20
61.		**HIGH PLAINS** (Wichita, KS)	1,956	113	9,212	448	(3,775)	129
62.		**COMPRESSION LABS** (San Jose, CA)	1,843	110	15,372	791	1,048	(4,841)
63.		**MEDICAL CARE INT'L** (Dallas, TX)	1,841	110	35,000[c]	1,803	(7,001)[9]	(211)
64.		**KING WORLD PRODUCTIONS** (Summit, NJ)	1,813	109	81,280	4,248	9,842	834
65.	43	**HELM RESOURCES** (New York, NY)	1,806	109	95,000[c]	4,985	(460)[9]	621
66.	7	**UNGERMANN-BASS** (Santa Clara, CA)	1,778	108	72,166	3,842	3,723	(321)
67.		**DEST** (Milpitas, CA)	1,669	105	18,556	1,049	2,616	(1,490)
68.		**PRIAM** (San Jose, CA)	1,651	105	105,025	5,997	(20,930)	(3,747)
69.	58	**AMERICAN HEALTHCARE MGMT.** (Dallas, TX)	1,574	102	410,000[c]	24,486	7,800[c]	1,228
70.		**MBI BUSINESS CENTERS** (Rockville, MD)	1,548	101	50,523	3,065	1,977	(15)
71.		**BIOMET** (Warsaw, IN)	1,537	101	33,082	2,021	3,468	213
72.		**HARVARD INDUSTRIES** (St. Louis, MO)	1,519	101	205,868	12,712	7,885	720
73.		**JACOR COMMUNICATIONS** (Cincinnati, OH)	1,508	100	14,423	897	100	(416)
74.		**BEN & JERRY'S HOMEMADE** (Waterbury, VT)	1,445	98	9,500[c]	615	520[9]	29
75.	49	**C. P. REHAB** (New York, NY)	1,370	96	26,560	1,807	2,203	526
76.	25	**CAREMARK** (Newport Beach, CA)	1,339	95	74,032	5,144	7,416	172
77.		**DATACOPY** (Mountain View, CA)	1,309	94	5,200	369	(1 734)	(902)
78.	39	**DURAKON INDUSTRIES** (Lapeer, MI)	1,282	93	49,679	3,595	3,848	180
79.		**THERMAL PROFILES** (Plainview, NY)	1,279	93	14,075	1,021	1,219	48
80.		**ANIMED** (Roslyn, NY)	1,257	92	8,917	657	104	(293)
81.	52	**AVANT-GARDE COMPUTING** (Mt. Laurel, NJ)	1,224	91	20,437	1,544	875	(676)
82.		**FONAR** (Melville, NY)	1,221	91	8,455	640	(8,909)	(1,119)
83.	44	**STARTEL** (Irvine, CA)	1,202	90	10,823[c]	831	(149)[9]	(483)
84.		**CONSOLIDATED STORES** (Columbus, OH)	1,196	90	129,045	9,958	8,641	1,392
85.		**ALTA ENERGY** (Midland, TX)	1,193	90	2,341	181	(143)	79
86.	68	**ACTION PACKETS** (Ocala, FL)	1,184	89	2,824	220	79	33
87.	19	**CONSUL RESTAURANT** (Minneapolis, MN)	1,180	89	86,972	6,797	(15,152)	(118)
88.	53	**PLAINS RESOURCES** (Oklahoma City, OK)	1,160	88	10,836	860	890	(242)
89.		**INSITUFORM OF NORTH AMERICA** (Memphis, TN)	1,112	87	8,287[c]	684	877[9]	(567)
90.		**TELEBYTE TECHNOLOGY** (Greenlawn, NY)	1,108	86	3,200[c]	265	(145)[c]	(68)
91.	21	**ZIYAD** (Denville, NJ)	1,105	86	28,595	2,373	2,791	188
92.		**INTERAND** (Chicago, IL)	1,096	86	6,926[c]	579	(1,214)[9]	(195)
93.	78	**TENDER LOVING CARE** (Lake Success, NY)	1,077	85	16,542	1,405	26	14
94.		**APPLIED CIRCUIT TECHNOLOGY** (Anaheim, CA)	1,053	84	18,520	1,606	(401)	153
95.	93	**THE YANKEE COS.** (Cohasset, MA)	1,036	84	213,078	18,754	3,446	1,923
96.	47	**IDEA** (Torrance, CA)	1,002	82	5,431	493	489	(13)
97.		**JACK HENRY & ASSOCIATES** (Monett, MO)	996	82	12,452	1,136	1,171	102
98.	35	**REID-ASHMAN** (Santa Clara, CA)	990	82	7,457	684	254	122
99.		**MANUFACTURED HOMES** (Winston-Salem, NC)	987	82	80,000[c]	7,359	3,593[9]	173
100.	41	**ENZO BIOCHEM** (New York, NY)	985	81	6,800	627	1,300	(209)

NA: 12-month figure not available at press time; NM: negative return on equity; i: INC. estimate; c: company estimate; 9: nine-month figure

$56,220	NM	855	375	2	1972	1984	Y	2%	Mfrs. digital & analog transmiss. equip.
75,996[9]	21.09	775	65	2	1981	1983	Y	22	Mfrs. injectable drugs
672,980	48.82	122	13	0	1980	1985	Y	11	Telephone communications systs.
3,627[9]	NM	131	10	0	1979	1982	Y	33	Quick-service restaurant
9,753	9.22	76	10	0	1978	1983	Y	14	Mfrs. disk controllers
1,070[9]	NM	41	7	2	1981	1983	Y	22	Distrs. television programs
5,238	NM	115	23	1	1980	1981	Y	5	Mfrs. medical devices
37,705	NM	200	40	0	1980	1983	N	4	Devels. health & specialty chemical prods.
9,275	30.58	122	18	0	1979	1985	N	0	Mfrs. diagnostic medical instruments
6,731	NM	640	19	5	1977	1983	Y	46	Retailer of microcomputer systs.
(1,308)	NM	7	7	0	1980	1981	N	8	Production/sale of ethanol
16,643	6.77	110	60	0	1976	1984	N	4	Mfrs. video compression equipment
48,192[9]	NM	600	175	25	1981	1983	Y	2	Outpatient surgical centers
23,299	186.83	71	10	1	1964	1984	N	12	Distrs. & syndicator of TV programs
(4,438)[9]	NM	214	307	4	1954	1980	Y	6	Energy svcs., agric. industries
64,029	6.87	100	20	0	1979	1983	Y	9	Mfrs. LAN
9,315	41.46	206	41	0	1970	1985	N	5	Mfrs. electronic document readers
77,587	NM	898	100	0	1978	1981	Y	1	Mfrs. disk drives
85,000[9]	10.19	6,700	900	1	1978	1984	Y	30	Health-care svcs.
11,735	39.63	390	23	1	1974	1984	N	9	Sells microcomputer systs. & prods.
20,406	19.71	489	55	1	1977	1982	Y	9	Mfrs. surgical implants
35,111	57.13	3,700	1,500	NA	1898	1932	N	45	Mfrs. engineered prods.
3,600	3.16	300	35	8	1979	1982	Y	26	Operates radio stations
1,646[9]	48.69	80	15	0	1978	1985	Y	34	Ice cream
50,928	4.54	203	70	1	1972	1980	Y	3	Health-care mgmt.
69,052	12.84	445	69	4	1979	1982	Y	4	Health care
5,766	NM	80	23	0	1973	1983	N	4	Mfrs. electronic digitizing cameras
13,220	41.12	575	80	3	1979	1984	Y	65	Mfrs. truck bed liners
10,222	13.70	400	50	2	1979	1981	Y	8	Mfrs. window & door polyvinyl profiles
17,917	2.81	350	25	7	1979	1984	Y	4	Veterinary clinical svcs. & prods.
20,039	4.98	197	20	1	1978	1983	Y	8	Mfrs. integrated software–based systs.
(4,344)	NM	193	6	0	1978	1981	Y	38	Mfrs. medical scanning equip.
5,536[9]	NM	90	20	0	1980	1983	Y	19	Microprocessor-controlled telecomm.
40,683	53.03	1,700	190	0	1967	1985	Y	20	"Close-out" merchandise retail store
1,675	NM	19	5	0	1981	1981	Y	36	Oil & gas explor. & devel.
1,327	11.47	35	5	0	1978	1984	Y	61	Distrs. gift-shop items
11,886	NM	1,800	137	3	1978	1980	N	3	Operates Mexican restaurants
14,634	11.11	75	27	1	1976	1981	N	8	Oil & gas explor. & production
8,768[9]	19.96	75	4	0	1980	1981	N	2	Mfrs. lining of pipelines, sewers
2,734[9]	NM	60	5	0	1979	1983	Y	13	Mfrs. computer peripherals & data comm.
28,006	11.12	300	100	0	1979	1983	Y	7	Mfrs. automatic envelope feeder
5,832	NM	92	12	0	1969	1983	Y	24	Mfrs. teleconferencing systs.
2,767	0.99	1,400	500	5	1978	1983	Y	13	Home health-care svcs.
12,707	NM	237	1	2	1976	1983	Y	39	Mfrs. test systs. for hard disk drives
28,737	11.91	700	100	2	1977	1980	Y	23	Energy operations & financial svcs.
3,385	16.89	49	7	0	1979	1983	Y	29	Mfrs. integrated circuit test equip.
1,740	131.01	42	13	0	1977	1985	Y	41	Integrates bank software/hardware
5,824	7.02	81	3	2	1980	1984	N	19	Mfrs. integrated circuit test equip.
11,329[9]	47.07	593	63	3	1975	1983	Y	59	Manufactured homes retailer
23,038	6.74	104	17	1	1976	1980	Y	12	Devels. prods. using genetic engineering

1. Return on equity is calculated by dividing 1985 net income by 1984 year-end shareholder's equity.

THE INC. 100 PORTFOLIO

KING OF HEARTS

Has Jarvik Found A Heart of Gold?

Dr. Robert Jarvik hardly seems to be writing a prescription for fast growth. His company's first product has been called dangerous, unreliable, and unethical. The chief executive officer of Symbion Inc. (#43) is spending much of his time trying to persuade "key opinion leaders" in Congress that artificial hearts should be implanted in humans.

Bad publicity? "People just don't understand that what we're doing is marketplace preparation," says Jarvik, the 39-year-old developer of the Jarvik-7 artificial heart. Despite the clamor, the heart is getting increasing use, at least as a temporary device to keep patients alive until human-heart transplants can be arranged. And more surgical teams are visiting Symbion's Salt Lake City complex to learn the procedure. Each group's training and equipment adds up to $350,000 for Symbion.

STEVE NORTRUP, *TIME* MAGAZINE

DR. ROBERT JARVIK'S Symbion Inc. now supplies not only the Jarvik-7 artificial heart, but also other, less controversial products.

Despite a loss of about $2.9 million in 1985, Symbion could do better this year with the introduction of two new products: an artificial ear and a ventricular assist device (VAD). The VAD is a temporary support that gives the natural heart time to recover after surgery. "Both will have better margins than the heart," notes Mariola Haggar, an analyst at L. F. Rothschild, Unterberg, Towbin Inc. "The company should make a nominal profit by 1987."

In 1983, Jarvik broke with Dr. Willem Kolff, his mentor and Symbion's cofounder, because "I felt that we needed to push much faster and more directly toward the growth of sales and profits." He calls his strategy the "full-service-bank approach." The VAD gives customers more options in cardiac care. The Jarvik-7 and the VAD use the same Symbion power source, which costs about $48,000.

Jarvik, a tinkerer whose "lousy grades" meant he had to start medical school in Italy, relies on consultants and directors for advice on running the company. "One of Dr. Jarvik's strong suits is that he listens," says Robert Reeves, who recently resigned after serving on Symbion's board for six years. "I always thought we could bring in businessmen to shore him up if he needed business depth." They haven't had to, but Jarvik is still a technician at heart. He recently bought back the rights to a surgical stapler he invented when he was 17. "It has never been produced," he says, "so maybe I'll do it myself."

—Joshua Hyatt

ROCKET MAN

Cade: Coping With An Untimely Death

John Cade's briefcase was all that survived when his twin-engine Cessna crashed just after takeoff last January. The briefcase landed in the parking lot of an apartment complex in Troy, Mich.

COURTESY OF *THE DETROIT NEWS*

JOHN CADE'S DEATH caused anxiety within Cade Industries and without. But the firm has continued with Cade's plans for success.

Among the charred notes found inside was a list of Cade's objectives for Cade Industries Inc. (#18), of Marinette, Wis. At 37, he had built the business—which provides components for the auto and aerospace industries—by acquiring mature companies. His next goal was to put together a management team. "John liked acquiring companies more than running them," says Michael J. Cavill, Cade's successor and the second-biggest shareholder. "Our next test, he knew, was management."

Like many founders, Cade relied excessively on his own talents and vision. He was president, director, treasurer, and largest stockholder in Cade Industries. He also served as president of another concern in which the company has a controlling interest.

The day after Cade's death, Cade Industries's stock fell from about $1\frac{1}{2}$ to 1. There were four inquiries about buying the company. "People who knew that John was the key player thought that we would be in a panic," says Cavill. Employees were also worried. "We're here because John saw how we could fit," says Mohsen Pazir-

andeh, president of Cade's only nonmanufacturing subsidiary. "I was concerned: Will the people who take over have the same vision?"

But less than two days after the accident, the board installed Cavill, a cofounder who took leave from his job as a stockbroker at E. F. Hutton & Co. Directors shifted personnel to cover trouble spots. A general manager of one subsidiary temporarily took command of another one that Cade had been running since firing the president.

Director John Plouff stepped in to oversee the design of Cade Industries's annual report. Its cover will feature an eagle flying toward the sun. "Eagles fly alone and they fly high," says Plouff. "That's John to me." —*J.H.*

GOING PUBLIC

On the Other Hand, Bad Debt Hasn't Been Much of a Problem

Amgen "has not received significant revenue from the commercial sale of its products. The Company does not expect to receive significant revenue from the sale of any of its products in the near future. The Company has only limited experience in manufacturing and has no marketing organization. There is no assurance that products developed by the Company can be manufactured and marketed in a timely fashion or will achieve significant market acceptance."

—The preliminary prospectus of Amgen (#58), a health- and specialty-products company in Thousand Oaks, Calif., February 3, 1986

DOUBLE FUDGE

Ben & Jerry's: A Double Scoop of Business Style

In 1984, Ben & Jerry's Homemade Inc. (#74), of Waterbury, Vt., was about to graduate from privately owned purveyor of upscale ice cream to publicly held manufacturing company. In what should have been his moment of glory, however, founding partner Ben Cohen was ready to cash in his chocolate chips and go find another career.

"We had grown so fast that I had become more of an administrator than an ice cream man," says Cohen, who had once taught pottery-making to emotionally disturbed children. "That was something I'd never wanted to be. Before selling my share of the business, though, I asked myself, OK, what don't you like about it? What is it about 'traditional business' that turns you off? And that's when I decided that if I could run Ben & Jerry's as a 'socially responsible' company, I could stay in the business and feel good about it."

GLENN MOODY

RATHER THAN LEAVE the company he had co-founded with Jerry Greenfield (left), Ben Cohen chose to run it in a nontraditional way.

Because he felt strongly that "the community should prosper right along with the company," Cohen engineered an equity offering pitched first to Vermonters and, a year later, to fellow ice cream fanatics nationwide; $500,000 from the $5.1-million offering helped start a nonprofit foundation that, bolstered by 15% of Ben & Jerry's pretax profits, supports local causes. Internally, Cohen also instituted a five-to-one salary-ratio cap, whereby the lowliest line employee cannot make any less than 20% of what top management makes (currently $50,000).

These moves haven't slowed the company's growth. Sales are $9.5 million, up 1,445% over five years. Still, the boss insists that his scoop-in-hand style of management has survived this rapid expansion.

"I may rely on my [seven-man] management team more for day-to-day decisions," says Cohen, "but we've never had an autocratic environment. Board meetings convene at my house, where we play round-robin Ping-Pong—I tend to get excited sometimes, and playing helps calm me down. Also, I bought an exercise bike for my living room, so the first guy there gets to pedal through the agenda. That can be an important consideration in our line of work."

Competitors inferring that they're dealing with a bunch of frosted flakes here might check with the folks at Pillsbury Co. Last year, seeking to protect its Häagen-Dazs's market share, Pillsbury allegedly tried to block distribution of Ben & Jerry's products to certain East Coast distributors. Ben & Jerry's countered with bumper stickers ("What's the Doughboy Afraid of?"), billboards, and airplane banners. Pillsbury eventually abandoned the blockade, but not before Ben & Jerry's had earned a generous scoop of free publicity for its guerrilla tactics. Says Cohen, "They tried to fight us in court, but we fought them in the public's mind instead. And that's always been our kind of turf."

—*Joseph P. Kahn*

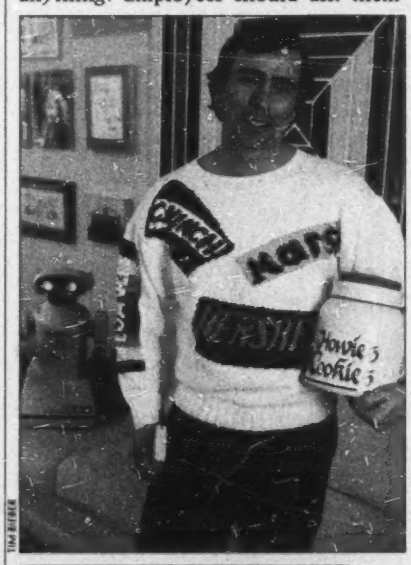
DIFFERENT STROKES

How Badly Do I Want It?

For every Ben Cohen (see story above), there's a Howard A. Tullman.

The sign on Tullman's wall says it all: "Work hard, stick together, improve every day and always ask the question: How badly do I want it?" "The leaders at CCC no longer even ask," says Tullman, founder and president of Certified Collateral Corp. (#31), in Chicago, in a memo to the company's 208 employees. "They know the answer because they live it all day long—every single day: we want it *very* badly and we want it *now*."

These are words by which Tullman lives and works—a distinction he barely acknowledges. "We focus our energies wholeheartedly on the job," he says in a manifesto meant to inspire the rank and file. "Anything that moves us away from our objectives is discarded." He does mean *anything*. Employees should ask themselves, "Can I make the personal investment and the necessary sacrifices of time, friends, and family? Can I accept the loneliness?"



TIM BIEBER

EMPLOYEES GIVE THEIR ALL at CCC, because president Howard Tullman has two simple rules: "Do it all, and get it right."

Many can. Turnover is low at CCC,

which provides auto-valuation data to insurers. According to Tullman, "People *want* rules. We don't have a lot of complex rules here, just two easy ones: Do it all, and get it right."

What of the families of employees? "They love the company," says Tullman. "Maybe people work longer hours at CCC, but when they do get home, they get home excited." —*Nell Margolis*

WIZARDRY OF OZ

Forum Group: The Road to Number 1

1967: Mutz Corp. is founded by Harold Mutz, chief executive officer, and his son, O. U. "Oz" Mutz. The company has no vaunting ambition: it is just one of countless small firms manufacturing fabricated duct pipes and fittings.

1970: In a stagnant economy, people are keeping their cars longer. The auto-parts market is served by 22,000 jobbers, none of them national. Oz and J. Fred Risk, a college friend who later joined the company, see a business opportunity and take the first cautious step, investing in Mid-Con Corp., an auto-parts supplier.

1972: Mutz Corp., with $3 million in sales, goes public.

1974: Now the company understands the auto-parts market and sees a chance to become big by acquiring other companies. It buys Mid-Con.

CHUCK MASON

GUIDED BY THE TEAM OF J. Fred Risk (left) and Oz Mutz, Mutz Corp. became Forum Group. It hit the INC. 100 under both names.

1975: Oz and Fred take over as CEO and chairman, respectively, and continue to acquire auto-parts companies.

1979: Mutz Corp. becomes #14 on the INC. 100. But its go-slow approach to acquisitions in the early '70s hurts: by now the auto-parts industry has some major

WHERE THE INC. 100 ARE BASED

State	1986	1985
California	23	27
New York	13	12
Texas	11	14
Massachusetts	7	4
New Jersey	5	3
Illinois	5	2
Minnesota	4	5
Ohio	4	4
Colorado	3	5
Indiana	2	0
Oklahoma	2	3
Tennessee	2	0
Utah	2	1
Wisconsin	2	0
Arizona	1	0
Connecticut	1	1
Florida	1	1
Kansas	1	0
Maryland	1	4
Michigan	1	3
Missouri	2	0
New Hampshire	1	0
New Mexico	1	0
North Carolina	1	1
Pennsylvania	1	1
Vermont	1	0
Washington	1	1
West Virginia	1	0

GRADUATES

Nine alumni of the INC. 100 kept growing strongly enough to gain elite status of another kind—a ranking among the largest companies in the United States. Six were listed on the 1985 *Fortune* 500, which covers manufacturing companies. The others ranked on *Fortune*'s Service 500, which includes separate lists for companies in transportation, diversified service, and other areas.

	INC. 100 Year	*Fortune* 500 Ranking, 1985
Amdahl	1979	#357
Apple Computer	1982, 83	234
Computer-vision	1980	436
Prime Computer	1979, 80, 81	400
ROLM	1979, 80, 81	397
Tandem	1979, 80, 81, 82, 83	445
Nike	1981	(Divers. Svc.) 64
Federal Express	1979	(Transp.) 19
Southwest Airlines	1980	(Transp.) 40

HONOR ROLL

Nine companies have made the INC. 100 list not once, not twice, but three or four years running.

	INC. 100 ranking			
	1983	1984	1985	1986
C. P. Rehab	73	69	49	75
Consul Restaurants	17	6	19	87
Endevco		1	9	16
Fibronics International		45	40	26
Computercraft		14	8	60
Caremark (formerly Home Health Care of America)		25	25	76
Avante-Garde Computing		72	52	81
Tender Loving Care		54	78	93
The Yankee Cos.		2	93	95

THE TOP 10:

Company (rank)	Sales ($000)
ALC Communications (3)	$467,293
HealthAmerica (20)	462,846
Amer. Healthcare Mgmt. (69)	410,000
Convergent Technologies (39)	395,167
Apollo Computer (14)	295,575
Allegheny & Western Energy (19)	270,458
The Yankee Cos. (95)	213,078
Harvard Industries (72)	205,868
Forum Group (1)	177,207
Endevco (16)	155,287

THE TOP 10:

Company (rank)	1985 empl.	1981 empl.	% growth
Applied Circuit Tech. (94)	237	1	23,600
Amer. Businessphones (6)	236	1	23,500
Ashton-Tate (4)	459	4	11,375
Cade Industries (18)	975	15	6,400
Sterling Software (30)	2,950	50	5,800
Patient Technology (41)	280	5	5,500
ComputerCraft (60)	640	19	3,268
Walker Telecomm. (17)	100	3	3,233
FONAR (82)	193	6	3,117
Fuddruckers (25)	3,000	100	2,900

players. "We've never much wanted to be number three or four in an industry," says Oz. Later that year, Oz and Fred invest in Excepticon Inc., a care facility for the mentally retarded that is headed by a friend.

Early '80s: Medical care has become one of the major growth industries in the United States, with investor-owned hospitals leading the way. Mutz and Risk wonder if they aren't on to something with Excepticon: once again, they see an industry in which they can grow fast and buy expertise through an acquisition strategy.

1981: Mutz Corp. jettisons its auto-parts business, and acquires Excepticon and a group of hospitals and retirement homes. At the end of the year, it changes its name to Forum Group.

1983: The government upsets the hospital market by ending the practice of paying whatever costs are incurred in treating Medicare patients. Now it establishes fees for treating given illnesses. Being in the hospital business is no longer tantamount to having a license to print money.

1985: In response to the shifting health-care scene, Forum sells its acute-care hospitals for $200 million. It refocuses on a health-care niche unaffected by regulation and demographically bound to grow: long-term care for the affluent elderly. The company begins aggressively buying retirement living centers.

May 1986: Forum's 68,585% growth rate puts it back on the INC. 100, this time as #1 and this time as a health-care company. —*N.M.*

TUNNEL VISION

Insituform: Growing With the Flow

Insituform of North America Inc. (#89) knows exactly what it wants from its board of directors. The company, which repairs sewers without tearing up streets, isn't interested in the usual ragtag collection of pushy venture capitalists, nervous bankers, and loyal friends. That's why it pursued and elected Alfred DelBello last summer.

Alfred *who*? Now president of Signal Environmental Systems Inc., in Hampton, N.H., DelBello just happens to have been lieutenant governor of New York, perhaps the capital of leaky sewers. Can DelBello get some business just by picking up the phone? "He's a brilliant salesman," notes vice-chairman Robert Leopold. So too William Ruckelshaus. The former administrator of the Environmental Protection Agency is another recent addition to the board. No doubt it's a coincidence that the company has applied for EPA approval to use its technique on water pipes.

These moves, long a practice of much bigger companies, may help Insituform grab much more of the sewer-repair market. The underground economy is bubbling. In the next five years, midsize and large cities will spend about $90 billion fixing water and sewer pipes, according to a Coopers & Lybrand survey. And it's a tough market to crack, especially with new technology. "In municipalities, there are lots of entrenched relationships," says Leopold. "Civil bureaucrats don't have any incentive to stick their necks out." Another company that earlier tried to market the same technology went bankrupt twice, and Insituform was drained of over $800,000 during its first two years.

Insituform's process, licensed from abroad, enables workers to repair sewers from the inside. A specially coated flexible tube, which is inserted through manholes, hardens to create a pipe within a pipe. Insituform's 13 sublicensees pay an 8% royalty fee. "Since you don't dig, you don't have the barricades, the traffic problems, and all the disruption," says Bennie Benjamin, deputy director of Detroit's Water & Sewage Department. Adds DelBello: "For a municipality, this is a godsend." —*J.H.*

BETSY CULLEN

BOARD MEMBER Alfred DelBello, former lieutenant governor of New York, may help Insituform get sewer-repair jobs there.

FULL DISCLOSURE

So Is It Fair to Say You Don't Consider Yourself to Be An Engineering-Driven Company?

Due to "a combination of engineering design defects, construction defects, and poor operational control of the ethanol plant facilities, the ethanol plant ran inconsistently with frequent shutdowns and corresponding inconsistent ethanol production until equipment failure resulted in a complete plant shutdown on January 17, 1985."

—High Plains Corp. (#61), in Wichita, commenting in its 10-K on problems that shut down its only ethanol production plant for a year.

TWO-TIMER

The Once and Future CEO

Irwin Selinger, a founder who has soared onto the INC. 100 with two different companies, is back for an encore.

In 1979, he guided Surgicot Inc. to #21 on the list. This year Patient Technology Inc., his second medical-products firm, in Hauppauge, N.Y., is #41. Not a doctor himself, Selinger finds out what physicians need by such unorthodox methods as working without pay in a hospital supply room.

He was marketing staplers for Swingline Inc. in 1965 when a stockbroker advised him that health care was a fertile area for business opportunities. "At that point, I knew nothing about health care," says Selinger. But he did know that he wanted to run his own company. To learn the business, he signed on as marketing director of a small medical-supplies company in 1966. Two years later, he met a scientist who had developed a new sterilization system. Selinger acquired the system and founded Surgicot, which reached $25 million in sales in 1979.

Selinger couldn't resist a buyout offer from Squibb Corp. the same year; he continued as chief executive officer. "No one was a more gung-ho Squibb man than I was. I mean, my wife wore Opium perfume because it was made by a Squibb subsidiary."

Within months, the perfume didn't smell so sweet. A company officer criti-

BO PARKER

IRWIN SELINGER, of Patient Technology, has taken two different medical-products firms onto the 100—in 1979 and again this year.

cized Selinger for flying coach, cautioning him that corporate executives flew first class. Then Selinger initiated an acquisition without so much as convening a committee. "I just went to the company president and said, 'Let's make a deal.' " Squibb was appalled. So was Selinger—at Squibb's reaction. "There are no bad guys in this story, just two cultures, two irreconcilable mentalities," he says. Selinger left as a full-time employee in 1980, starting his new firm in 1981 with a line of medical instruments that Squibb had turned down.

Now more than 20 former Surgicot workers are back where they were a decade ago: at an INC. 100 company founded by Irwin Selinger. —*N.M.*

FEMALE DIRECTORS

INC. 100 Boards Are a Male Preserve

How many women sit on this fifteenth-century board of directors? None. How many sit on the boards of the INC. 100? Only 11. And 5 of those are related to the chief executive officer of their respective companies. According to available documents, the 674 directors on INC. 100 boards include 12 doctors, 30 lawyers, and 23 consultants. The financial world supplies eight commercial bankers, 39 investment bankers, and 62 venture capitalists. Over one-third of the board members are company insiders, and nearly one-quarter are considered industry experts. Forty-six are members of the CEO's family. Also included: one figure of national prominence—Leonard Woodcock—and one household name—Dante Jacuzzi.

COURTESY OF THE FRANS HALS MUSEUM

BLUE CHIPS

Some Big Companies Could Have Made an Earlier INC. 100 List

Did three of the most prestigious names in business—DuPont, IBM, and GM—grow in their early years at a rate that would have qualified them for any of the INC. 100 lists?

DuPont did. With a 400% gain from 1804 to 1808, the 184-year-old concern would have landed the 39th berth on the first INC. 100 published in 1979 and the 77th spot in 1980. IBM's fastest five-year growth rate was too low at 181%, logged between 1915 and 1919. GM never would have qualified for the list, since sales during its first year of business in 1908 topped the INC. 100 upper limit of $25 million for the base year. But just for the record, GM's growth rate between 1909 and 1913 was about 192%—enough to earn the 99th ranking in 1979. None of the figures come close to the cutoff of 985% on this year's list, though.

SURVIVORS

Growing Fat During The Disk-Drive Wars

The disasters came one after another, with no letup. Four disk-drive companies filed for protection under Chapter 11. Six others abandoned the business entirely. And most of the others probably wish they had.

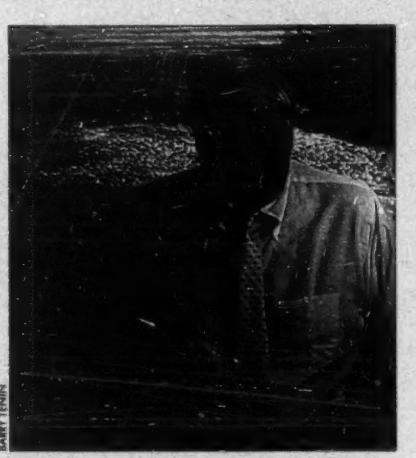
Talk about losing your shirt. In a stagnant market last year, foreign producers increased their U.S. sales of rigid and floppy disk drives by about 23%. Many domestic makers fought hard just to survive. Priam Corp., in San Jose, Calif., (#68) was a typical case, losing $20.9 million.

Then what explains the stellar performance of Iomega Corp. (#5)? In 1985, its profits climbed nearly sixfold, to $14.9 million, on sales of $116.5 million.

Iomega changed its marketing just in time—a change that was forced upon it. Back in 1983, the industry's salad days, Iomega faced a crisis. Most firms sold their disk drives to original equipment manufacturers (OEMs) such as IBM Corp., which used the drives in their personal computers. But Iomega couldn't meet industry specifications: its technology has characteristics of both a floppy and a hard disk.

The OEM market, though, ran into trouble in 1985. Stagnant computer sales convinced the OEMs to pull disk-drive making in-house or to subcontract with low-cost manufacturers overseas. Companies like Priam, dependent on OEMs for 98% of sales, were devastated. "Being rejected by the OEMs proved to be a blessing in disguise," says Gabriel P. Fusco, president and chief executive officer of Iomega.

Iomega had scrambled into the aftermarket instead, where demand for add-on hard drives rose from 104,000 units in 1984 to 198,000 last year. The aftermarket strengthened as both companies and consumers looked for ways to upgrade existing computer systems rather than to buy new ones. With more than 80% of its business in the aftermarket and other retail sales, Iomega says it reaped an additional 5% to 7% gross margin, with only 1% to 2% in increased sales and advertising costs. Those numbers made for good reading on the bottom line. —*Greg Critser*



BARRY TENIN

GABRIEL P. FUSCO says that having his disk-drive company, Iomega, rejected by OEMs "proved to be a blessing in disguise."

THE ODYSSEY

Harvard Industries: From Ale to Aerospace

Most INC. 100 companies are under a decade old, but the roots of Harvard Industries Inc. (#72), of St. Louis, go back to the last century. Thereby hangs a tale; Burton Abrams, director and unwitting company historian, tells it:

19th century: A small brewery is established in Virginia.

Circa 1900: The brewery moves to Massachusetts. Using the name of a venerable neighbor, it becomes Harvard Brewing Co.

1919: Prohibition takes hold, forcing the company out of business.

1932: Anticipating repeal of Prohibition, a company at least indirectly controlled by German businessman Wilhelm von Opel reactivates the old brewery.

1933: Harvard goes public in the depths of the Great Depression as FDR initiates the New Deal.

1936: Harvard College brings unsuccessful suit to stop the brewery from using the name and a crimson logo.

1942: The U.S. government, acting through the Alien Properties Custodian, seizes the Opel group's assets, including Harvard Brewing.

1955–56: The United States sells controlling interest in Harvard Brewing to a private citizen interested in making it a working brewery again.

1956: The new owner sells his Harvard stock to a New York private-label brewery.

1957: Harvard is merged into two real estate firms. Now the erstwhile purveyor of ale is landlord to federal workers at Fort Knox.

1959: Divested of all properties but Everglades Bank in Florida, Harvard is sold to new owners who begin turning it into an electronics company. They hire William

LOWELL MUSEUM

HARVARD INDUSTRIES, which in previous incarnations was a brewery and a real estate firm, now thrives as an electronics company.

Hurley, an engineer, to head up the effort. The company emerges as a government contractor.

1967: Says Burton Abrams, "A fellow who worked at the Securities and Exchange Commission took [Harvard's] file home one weekend and never showed up for work on Monday. Neither he nor the file was ever heard from again."

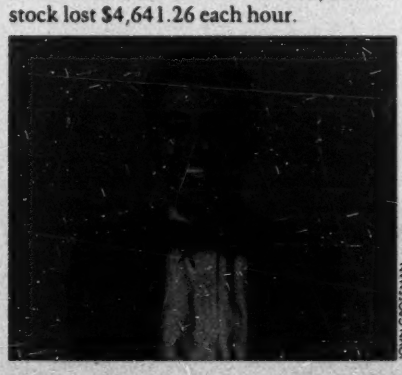
1984: Hurley, now majority shareholder and chief executive officer, begins a program of acquisition to wean Harvard from its reliance on government contracts. Targeting firms that make aeronautical and automotive products, Harvard makes three major acquisitions in 13 months.

1986: Harvard makes the INC. 100. —*N.M.*

NET WORTH DEBACLE

Papering the Bathroom With ComputerCraft Shares

Why is this man smiling? Billy Ladin, president and chief executive officer of ComputerCraft Inc.(#60), a retailer of microcomputers, watched the value of his 1,838,823 ComputerCraft shares plummet 76.3% during the year ending March 1. Based on a standard workweek, Ladin's stock lost $4,641.26 each hour.



JOHN GROSSMAN

LINE ITEMS

Everything You Always Wanted to Know About the INC. 100

■ Six INC. 100 chief executive officers once worked for IBM Corp.

■ Symbion Inc. (#43), which makes the Jarvik-7 artificial heart and other artificial organs, carries no product-liability insurance.

■ One of Action Packets Inc.'s (#86) best-sellers is Freeze-Dried Astronaut Ice Cream.

■ Robert Springer, founder of Western-World Television Inc. (#56), started his career as a scriptwriter at CBS for the "Perry Mason" TV series.

■ The government of Israel provided some research and development capital for Fibronics International Inc. (#28), which set up a manufacturing plant there.

■ Employees at Compression Labs Inc. (#62) receive an unusual employee benefit: one free hour with a lawyer each year.

■ Ninety of the INC. 100 CEOs were born in the United States. The rest were born in Sweden (2), India, Israel, Wales, Canada, Poland, Argentina, and The Netherlands.

■ And one was born in the Soviet Union.

■ Biomet Inc. (#71) started in 1977 with a $500,000 loan from the Small Business Administration. Since then, in addition to paying installments on the loan, Biomet has paid about $6.5 million in federal income tax.

■ Working in Fargo, N.D., Stanley E. Larson was the largest North American Steinway piano distributor before becoming CEO of High Plains Corp. (#61), an ethanol producer.

■ INC. 100 companies have collaborative ventures with some of the largest firms in the United States, including Texaco, General Electric, Johnson & Johnson, Wang Laboratories, and Hercules Chemical.

■ The vice-president of finance at Consul Restaurants Corp. (#87) is John Hamburger.

■ The underwriter for SIS Corp. (#50), which develops restaurants for Wendy's, was McDonald & Co.

■ Consolidated Stores Corp. (#84) helped liquidate the last cars produced by De Lorean Motor Co.

■ Founders are still running 73 of the INC. 100 companies.

■ Irwin Selinger, CEO of Patient Technology Inc. (#41), personally writes a letter to his 280 employees once a month.

■ The perils of growth: Harvard Industries Inc. (#72) acquired small manufacturers that may be liable for toxic-waste cleanup in three states and Puerto Rico.

■ Forty-three companies on the INC. 100 list have employee stock ownership plans.

■ Allegheny & Western Energy Corp. (#34) grew overnight from $13 million in sales to $270 million with its buyout of a natural-gas company.

■ Distribution of the television game shows "Wheel of Fortune" and "Jeopardy!" accounted for 82% of King World Productions Inc.'s (#64) sales in 1985.

■ 1 Potato 2 Inc. (#12), a restaurant chain, is the fastest-growing small *bankrupt* company in the United States. It filed for protection under Chapter 11 on November 15, 1985.

■ Five INC. 100 CEOs have founded other firms during their business careers.

■ Helm Resources Inc. (#65), an energy and agriculture company, grew at a rate of 1,806% over the past five years. But it trimmed its payroll from 307 employees to just 214 over the same period.

■ Eight states have never been home to an INC. 100 company since the first list was published in 1979: Arkansas, Hawaii, Maine, Mississippi, Montana, North Dakota, South Dakota, and Rhode Island.

■ Only 1.5% of all long-distance telephone customers use Allnet Communication Services Inc., owned by ALC Communications Corp. (#3).

■ The National Aeronautics and Space Administration used an Ashton-Tate (#4) program to manage information for the *Voyager 2* mission to Uranus.

■ Eighty-three companies on the list were founded in the last decade.

■ The occupancy rate at hospitals run by American Healthcare Management Inc. (#69) was 34% in 1985, compared with 54% at investor-owned hospitals nationwide.

■ Veterinarians across the country send animal electrocardiograms over the phone to Animed Inc.'s (#80) office in Roslyn, N.Y., where the firm makes diagnoses.

Inflation topping 15%, the prime nudging 20%, and business failure rates skyrocketing. When it came to starting a company...

AAH, THOSE WERE THE DAYS

BY JOSEPH P. KAHN AND STEPHEN D. SOLOMON

SIX YEARS AGO, THE ENTREPRENEUR listening for the music of opportunity amidst the din of economic disaster had to fine-tune his receiver—or surrender to the static. Dial in any wavelength and there were few clear signals one could confidently decode. Who knew, for instance, whether start-up ventures would have access again to cheap capital—or the prime-lending rate would continue to flirt with 20%? Who could predict with certainty, say, the shake-up in the airline industry that deregulation would cause, or how cost-control legislation would revolutionize the health-care industry?

In putting together the INC. 100 list of the fastest-growing public companies, however, we couldn't help notice the large number of companies born during this era of uncertainty and unrest. We wondered: Did they know something nobody else knew? Hear things no one else heard? Have a crystal ball hooked to a rooftop dish? Punching our own playback button, we decided to rewind the tape and listen once more to the background noise so dominant at the beginning of the decade. Some surprising sounds emerged.

Nineteen eighty, you remember, was a Presidential election year, and the air was filled with debate and despair. Followers of the Ayatollah Khomeini held 52 Americans hostage in Iran. World oil supplies were short, tempers shorter. As the political season began in earnest, President Carter started arguing with Ted Kennedy, Kennedy argued with Ronald Reagan, Reagan argued with Carter, and all of them argued with Paul Volcker, who wasn't even running for office. Economists spoke of supply-side theory and reindustrialization, yet the enduring images beamed back to the electorate were of a U.S. President omitting crucial sections of his anti-inflation address when two pages of the speech inexplicably stuck together, and of a Vice-President-to-be labeling his future boss's theories "voodoo" economics.

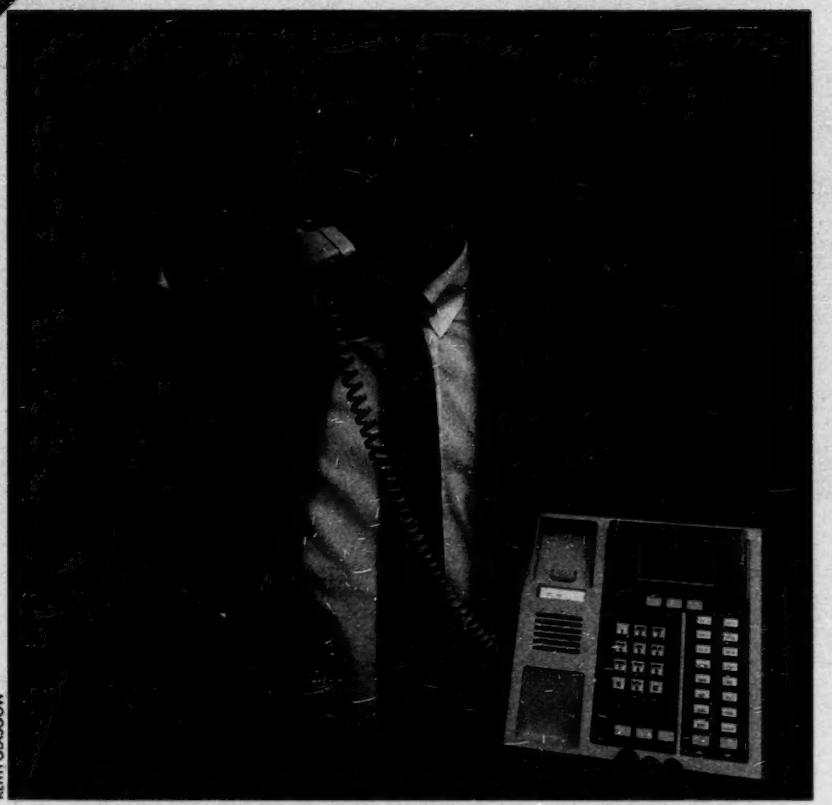
Actually, as Mr. Bush himself might concede today, voodoo had a certain appropriateness for an economy by all rights more dead than alive. In 1980, consumer prices soared 13.5% and the prime interest rate climbed past 20%, higher than ever before. Corporate profits fell about 9% and productivity 0.5%. Businesses were failing at the rate of 42 per 10,000 concerns, up from 28 the year before—and up again, to 61, in 1981. Energy costs hit an all-time peak in 1981, six and a half times their level of 11 years earlier. Companies shopping for start-up money in 1980 were further hampered by a general lack of venture capital (a total of only $1.1 billion, compared with $2.8 billion in 1983) and an anemic initial public offering market ($420 million raised by venture capital-backed firms, versus $3 billion three years later).

Where so many heard only the buzz of bad economic times, however, others marched forward to a different sort of tune: the tune of opportunity. For Forum Group Inc., the #1 company on this year's INC. 100, it was the opportunity to move nimbly from the auto-parts business to health care and to the burgeoning nursing-home market. For Durakon Industries Inc. (#78), maker of bed liners for pickup trucks, it meant capturing a commanding (60% to 70%) share of a market expected to continue growing dramatically. For VLSI Technology Inc. (#9), it was the ingenuity to adapt product to market so swiftly that more than half its 1985 revenues came from products introduced during the same year. And for Jet America Airlines Inc. (#24), it was seizing the opportunity offered by deregulation to establish full-service routes to a variety of midwestern and southwestern cities out of Long Beach (Calif.) Municipal Airport.

Whatever their business and whatever the economic conditions when they started, companies on this year's list and on lists past have all had a much more important common characteristic than breakneck growth. They have, as individual companies and as a group, provided a blueprint of the major business opportunities provided by the American economy over the past decade, opportunities created by vast changes in technology, politics, and social and economic policy.

Look at the *Fortune* 500 and you won't find such ready evidence of new opportunity. The *Fortune* list is a rich anthropological dig into another era of American business history, a time when the steel, the auto, the chemical, and other heavy manufacturing industries made the United States the world's preeminent industrial power. You won't find any auto companies on the INC. 100.

Look at the INC. 100 lists since the first was published in 1979, and you'll have a tour of recent business history—and,



KEITH GLASGOW

SPIRALING INTEREST RATES had Computer Telephone on the financial hook in 1980. CEO Stephen Ide wondered "If it took some sort of death wish to start a company when we did."

perhaps, a glimpse of the kind of companies that will dominate tomorrow's economy. Some will grow into big companies in their own right; others will be absorbed by *Fortune* 500 firms and influence their direction, as biotechnology companies have with some big pharmaceutical manufacturers. Still others will die because the opportunity they saw turned out to be a chimera, or because they mismanaged the brief chance they had.

The tour can start with the INC. list of 1979, when Federal Express Corp. (#19) was tapping a growing need for fast package delivery and establishing what became the model for a major new service industry. Or to the 1981 list, when Nike Inc. (#29) was taking advantage of vast social changes that brought new interest in fitness and leisure. Or look at the 1982 list and see Apple Computer Inc. (#1) establishing a personal-computer industry.

This year's list is no different. It is a window into the sea change taking place in the $387-billion health-care industry, where the major opportunities are now in cost control. Look at HealthAmerica Corp. (#20) and United HealthCare Corp. (#49), two of the leaders in health maintenance organizations (HMOs). Look at the other medical companies that provide such cost-cutting services as home health care, home diagnostic kits, and outpatient surgical and diagnostic clinics. Or look at the nine telecommunications companies that are seizing the opportunities created by the breakup of AT&T's monopoly. Or at the two airlines taking advantage of deregulation. Or at the 26 computer-related companies, including Ashton-Tate (#4), already a pacesetter in software, and Apollo Computer Inc. (#14), a leader in engineering workstations, a fast-growing segment of the computer market. Or at Expeditors International of Washington Inc. (#7), trying to exploit the growing need for fast delivery of business packages overseas. Will it be the next Federal Express?

If the success of these businesses seems routine today, turn up the volume and listen to the faint sonata that their founders heard before it played loudly enough for the rest of us.

Nothing would have been possible for Computer Telephone Corp. (#53), if not for the landmark *Carterfone* decision in 1968. The Federal Communications Commission began unraveling the AT&T monopoly in telecommunications by permitting the interconnection of non-Bell equipment to the Bell System's phone lines. Nine years later, a federal judge shattered another part of the monopoly by allowing MCI Communications Corp. to compete with AT&T in long-distance service.

It was an entrepreneur's dream, a multibillion-dollar market opened to competition for the first time. Hundreds of small companies responded by manufacturing, supplying, leasing, installing, and servicing the interconnect equipment. "These companies found whatever piece of equipment they could and sold it on the basis of it being cheaper than what you could rent from AT&T," says Stephen Ide, who was then vice-president of operations for Rolm of New England, an operating company of Rolm Corp. "I remember sales calls in the mid-70s when you had to explain to customers that it wasn't illegal to be doing what you were doing [selling non-Bell hardware]."

In 1980, Ide and a few colleagues left Rolm to start Computer Telephone. The opportunity that had its genesis in *Carterfone* had changed substantially by then. "The small-business person was not getting the full spectrum of technological services available to *Fortune* 1,000 companies. They were dealing with people who couldn't provide the things we could—the full spectrum of services. We were for small business, to get around the problem of people supplying little parts, but not the whole."

Ide started the company with the idea of providing comprehensive phone-system design, installation, and maintenance services, primarily to businesses with 150 or fewer phones. But it was a terrible time to start a business, opportunity or no. "Our first two years were extremely tense," says Ide. "Thirty percent to 40% of our business is leased, and that makes it extremely interest-rate sensitive. Customers buying into our phone systems locked into fixed rates. But as interest rates rose, we had difficulty attracting new customers away from Bell's rentals. There were months [back in '82] when we sold or leased nothing—zero. We began wondering if it took some sort of death wish to start a company when we did."

Though it sold itself as a sophisticated telecommunications firm, the company could afford only a single-line phone in its own office, a converted stable in Natick, Mass. "Here we were, selling very sophisticated equipment, but we couldn't even afford it for ourselves. We made every effort to keep customers away from headquarters in those early years," Ide says. To survive, Ide continues, "everyone had to be a salesman. Our single technician was not a salesman, but he used to telemarket for us."

Ide never spent much time speculating about a possible divestiture of AT&T's operating companies. "Back then," says Ide, "asking ourselves, 'What if AT&T deregulated?' was like asking, 'What if we could run wires to the moon?'" Yet when divestiture came, Computer Telephone moved quickly to capitalize on an opportunity created by the change. It signed on as a

partner with New England Telephone & Telegraph Co., a NYNEX Corp. subsidiary, to sell its facilities and services. "[These] are the same people we fought tooth and nail in 1980 to 1983," says Ide, a little incredulously.

"Our industry is at a transition point," he says. "In the next couple of years there will be three or four dominant players in any given region. Everyone's lowering profit margins to keep market share, but whether they can keep that market share is another question. We might wind up acquiring other companies or the deserted customer bases caused by company failures.

"It's still survival of the fittest."

KEITH GLASGOW

BEFORE HE ACQUIRED firms specializing in medical cost control, Caremark's *James Sweeney* had a macroview of the health-care field: "We'll have to grow to $500 million just to survive."

Fittest." Now that word has a nice ring for Phil Bredesen, who founded HealthAmerica Corp. (#20) in 1980. The company owns and operates HMOs, which provide health-care services for a prepaid fee. Bredesen can make a healthy profit by keeping people fit. Even written in a doctor's scrawl, the prescription is easy to read: administer a lot of preventive medicine, and try to catch problems early. If hospital care is needed, treat patients efficiently and get them back home quickly.

That wasn't where the big opportunities resided in health care in the 1970s and early '80s. Third-party payers, including the federal government, reimbursed hospitals and other health-care firms for whatever services they provided to patients; with no incentives to hold down costs, national health-care expenditures rose from $75 billion in 1970 to $248 billion 10 years later. For investor-owned hospitals and other health-care companies, double-digit increases in sales and profits were routine. Meanwhile, employers were hard hit as their bills for health-insurance benefits soared about 20% a year.

Bredesen, an executive with a hospital management company, saw that this situation couldn't continue. "Around 1980, the health-care field in general seemed ready for new approaches," he says. "Everywhere, you heard a whole chorus of employers' complaints about health-care costs." And no wonder. "Hospitals were doing anything to get patients to stay in longer. I mean, you'd get a woman in maternity for a normal delivery, no complications—and if she was still there on the third night after giving birth, the hospital would throw a steak dinner for the husband and wife."

Bredesen started HealthAmerica in 1980 with just $50,000 in seed capital from a quartet of private investors and a $250,000 line of bank credit. Venture capital was so tight that he didn't even bother to try. "Starting out with more money might have made us fatter and happier," he says, "but I'm not sure that would have been good for us. If you're starting out to run HMOs and you've got only $50,000, you do everything as if every cent counted—which it does."

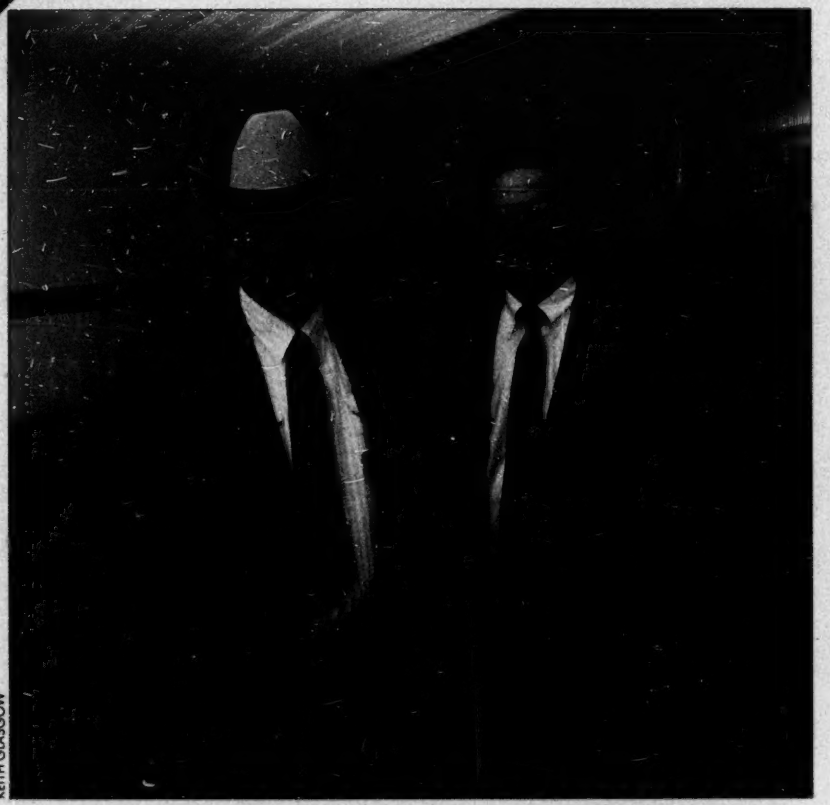
HMOs have been operating in the United States for half a century, but Bredesen moved into the market at just the right time. After passage in 1973 of a federal law promoting them, the number of HMOs increased 214% to 226 by 1980. But many were badly run and losing money. "A lot of the HMOs were starting to fail, and there was a feeling that if Reagan got elected, there would be an even greater drive to pare down costs," says Bredesen.

HealthAmerica got contracts to manage sick HMOs, with an option to purchase. But the gathering storm over health-care costs was changing the market faster than Bredesen had figured. One change was that employers, trying to hold down the rising cost of benefits, were pushing more and more workers into HMOs. The second change shook the industry to its core. In 1983, the government threw out the cost-plus method of reimbursing treatment of Medicare patients, replacing it with a schedule of fixed fees for each diagnosis. Now hospitals *lost* money by keeping patients too long. Only the most efficient hospitals—those that conducted fewer tests and sent patients home faster—could make money.

The new reimbursement policy brought a revolution to health care that you can see today: the average patient stays in the hospital fewer days and the percentage of empty hospital beds has increased. Since idle capacity is as bad for hospitals as it is for steel companies, such for-profit hospital chains as Humana Inc. are locked in an increasingly hot battle to attract patients. Their strategy: start or acquire HMOs and walk-in medical offices—and use them to funnel patients into their hospitals.

"A window we had thought would be open wider, for longer, was closing fast," says Bredesen. "When we started out, we thought we had, oh, five or six years. We began to see that we didn't. The market was getting flooded." So HealthAmerica shifted strategy, acquiring and starting HMOs instead of just managing them. "We acquired some that were in worse condition than we would have wanted, that we probably wouldn't have bought if time had been on our side—but they were available, we could get them, and we had to establish our presence in the market in a relatively short time." By early 1986, HealthAmerica owned or managed HMOs in 38 markets, with an aggregate enrollment of 895,000 patients. With revenues of $462.8 million and earnings of $11.5 million, it is now one of the largest operators of HMOs.

The same big move to contain health costs created an opportunity for James Sweeney. In 1979, Sweeney, who had



KEITH GLASGOW

DESPITE DARK FORECASTS for the solar energy industry, CEO Ronald L. Wilder (left) and CFO Thomas D. Taylor, of Solar Age, hope diversified products will replace federal tax credits.

spent four years as a health-care consultant for Arthur Young & Co., founded Home Health Care of America Inc. to deliver complex medical support services to patients at home. "My background in the industry gave me more of a macroview," says Sweeney, "but when we started, there was still such a strong bias toward hospitals that we didn't get a dollar's worth of [carrier] reimbursement for the services we offered. That situation and the malpractice issue made venture capital people very skeptical of us—in fact, the first eight or nine turned us down. But logic was on my side. I knew something had to give within the system. Except for Medicare, the last big wave of federal legislation had come in the 1930s. Since then, everyone had been well served but the patient."

The company, which became profitable in its second year, has introduced such services as home chemotherapy and home antibiotic infusion therapy. It was positioned perfectly for the cost-control move that resulted in patients leaving costly hospital beds much sooner than before—leaving hospital beds for beds at *home*, where Home Health Care could pick up the treatment.

Sweeney didn't stop there. Last year, Home Health Care acquired two companies, exploiting different opportunities in medical cost control. One, renamed America's Pharmacy Inc., feeds off the home-care division by providing drugs and other medical products by mail order. The other, Health Data Institute Inc., helps insurance carriers and big companies pare down their medical costs. It provides analysis and management systems to prevent unnecessary expenditures and inappropriate use of medical services. Folded into a holding company called Caremark Inc. (#76), the three businesses generated sales of $74 million and earnings of $7.4 million last year.

Caremark must grow to $500 million by 1990 just to survive, says Sweeney. "When you look at the $5 billion to $6 billion spent annually on home health care in this country and realize no one company has more than 1% of that market, you have to believe that consolidation within this industry has only begun. I expect about 15 'supermeds' to emerge within the next 5 to 10 years, and it's my job to stay ahead of the power curve."

For at least one INC. 100 company, staying ahead of the power curve is more than a turn of phrase, it's a way of life—albeit an increasingly tenuous one. Identifying an opportunity and exploiting it are not always enough for an entrepreneur. The market that creates an opportunity can take it away, too.

It all looked so promising once for Solar Age Industries Inc. (#27), of Albuquerque. When it was founded in 1979, the price of oil was approaching its all-time high. Federal energy tax credits gave consumers an incentive to buy solar equipment, and enough did so to spur the growth of the industry from 45 companies in 1974 to more than 200 a decade later.

Ronald L. Wilder, a distributor of American Indian art, helped start one of those companies, Solar Age, after he saw a window solar collector at a home show. "Everybody was looking for energy-saving devices," says Wilder, the president. "The news media made everything look devastating, every paper or magazine you opened, every TV or radio you turned on, there it was. I think that just about everybody in the country was worrying, 'What's going to happen to my fuel bills?' I thought you could put a bunch of these [solar collectors] on a truck and go up and down the street and sell 'em like watermelons."

They sold well enough to launch Solar Age to $15.3 million in sales last year. But this year the bottom has fallen out of the market. The federal energy tax credits that made homeowner investment so attractive expired at the end of 1985, and Congress has been wrangling over an extension. U.S. crude oil prices have plunged from more than $36 a barrel to less than $14 in March, allaying concerns about energy costs and widening the competitive gap between oil and solar. Experts predict that half or more of the solar industry will fold if Congress doesn't help.

Will Solar Age be one of the casualties? "There's no way for me to minimize the impact, because it's there," says Thomas D. Taylor, the executive vice-president and chief financial officer. Sales in 1986 are down 65% from last year. In response, the company has started cleaning out its sales force. "It's real easy for salespeople to get lazy and begin to rely on tax credits to do their jobs for them," says Wilder. "Then the credits go, and they don't know how to handle it. We've had to let some of the old sales staff go and bring in new people who never *heard of* the words 'tax credits.'" Solar Age is diversifying, too, by making a prefabricated greenhouse-cum-sunroom that attaches to a house.

Like so many companies on this year's INC. 100 list, Solar Age was conceived out of the major social and economic forces roiling the nation. Now its opportunity may be disappearing as convincingly as it once appeared. That is one of the major risks of being an entrepreneur, listening as you must to the changing music of opportunity without the capital base and diversification that cushions large companies. In good times or bad, the sound never ceases. □

Additional research for this article was provided by Leslie Boltax Aizenman, Karen Angeline, and Nell Margolis.

SEEING RED

Why one out of every three companies on the INC. 100 is losing money.

BY TOM RICHMAN

THERE IS ANOTHER WAY, APART from growing very quickly, by which INC. 100 companies distinguish themselves from the rank and file of American business. They are . . . shhhhh . . . a great deal more likely than other companies—those, say, on the *Fortune* 500—to be money-losing propositions.

Unprofitability is a frequent but not always uninvited companion to hypergrowth. It rarely, however, gets much publicity. The companies involved would rather talk about their strides at the top line than losses on the bottom. And you won't see losses highlighted, for example, in any of the boxes scattered throughout this section. In fact, you've got to be willing to do your own counting even to discover it. Go to the list of companies that begins on page 44, run your finger across to the "Net income" column and then down. Find the '85 net incomes, beginning with Piezo Electric Products Inc. (#2), that are embraced by parentheses. Did you count 30? That's how many there are.

Thirty percent of this year's INC. 100, with their exploding sales, showed losses. In contrast, only 6.8% of the *Fortune* 500 last year failed to report a profit even though total revenues of *Fortune* 500 companies actually slumped by 1% over the period 1981–84. Surprised at the difference? David Birch isn't. "If it were *not* that way," says the Massachusetts Institute of Technology researcher, "it would surprise me." Birch, who did pioneering work on the role of small companies in job generation, observes that rapid growth is always risky. "Companies that rocket up," he says, "often rocket down. Look at Apollo." Apollo Computer Inc. (#14) has grown at a 205% compound annual rate for five years, giving it an early lead in the market for engineering workstations. Its reported loss of $1.5 million in 1985 after three profitable years, if not a surprise to management, was certainly not part of the company's long-range growth strategy. Like many companies that grow fast in a market they themselves helped to create, Apollo has run up against new competition from the bigger companies that their market has attracted.

Fast-growth companies aren't immune to bad luck, errors, and plain boneheadedness. They are also vulnerable to conditions that, usually, aren't fatal to larger companies. Because they frequently rely for their sales on a single product, technology, or market, for example, what might be a pothole to a bigger company with other revenue sources and a larger capital base looks like a ditch to the small growth company. Further, explosive sales growth often requires a company to add costs—payroll, plant, equipment—at an equally rapid rate. If the growth rate slows abruptly, a company can be caught with excess capacity, personnel, and fixed costs. Then it is time to pare down quickly, with big write-offs, or face worse problems later. The INC. 100 landscape is dotted, if not littered, with the corpses of onetime high fliers like Air Florida System Inc. (#14 on the 1982 list), which couldn't adjust to its changing competitive landscape. It filed for Chapter 11 protection and was acquired by Midway Airlines Inc. in 1985.

THE TOP 10:

Company (rank)	Net income as % of sales
Certified Collateral (31)	24.12%
Energy Oil (8)	19.74
Electronic Tele-Comm. (36)	19.59
Forum Group (1)	19.13
Enzo Biochem (100)	19.12
Centocor (38)	15.49
DEST (67)	14.10
Iomega (5)	12.79
V Band Systems (22)	12.78
King World Productions (64)	12.11

For bad luck, nothing tops the falloff in world oil prices that has killed demand for High Plains Corp.'s (#61) high-priced ethanol, which it proposed to mix with gasoline to make gasohol. G. D. Ritzy's Inc. (#54) erred, however, according to analysts, by not establishing a clear marketing proposition for its fast-food restaurants. What are they? A chain of burger restaurants? Or ice cream parlors? Nobody knows. Then there is (or rather, was) Chemical Investors Inc., which closed its many doors in June 1983, just a year after it sat in the #9 spot on the 1982 INC. 100 list. CI's founder and chief executive officer, Gary Zintgraff, had a lust for acquisition but very little taste in what he acquired, and not the slightest talent for managing any of them.

Growing quickly on the tiny capital base that most young, first-spurt companies have leaves little room for even small errors and none for egregious greed.

No, what's surprising about bottom-line losses among the INC. 100 is not that they crop up so often, but how frequently they are either cultivated deliberately or calmly taken as inevitable—part of the planned investment in growth. Companies competing in new industries or in significant markets in older industries often buy sales growth at the expense of profits. They're hoping to build market share, profits, presumably, will follow. Not every negative net income reported by a company on an INC. 100 roster qualifies as investment, but some do.

Comp-U-Card International Inc.'s, for example. CUC (#48) runs a computerized shopping service with 1985 revenues of $28.7 million and an accumulated earnings deficit at year end running to more than $10 million. The company recorded losses from its 1973 founding until 1984 while it built up its database of consumer

products, prices, and vendors. It recruited members who would use their telephones or home computers to shop and buy through the database. Number of members, not dollars of profit, was the quantitative goal each year.

To have been profitable before 1984 (when it earned a scant $31,000) would have been shortsighted, CUC founder and CEO Walter Forbes argues, because it would have meant that the company wasn't spending enough to sign up new members. The formula, he says, is fairly cut and dried. Every new member costs the company about $30 in direct-mail costs to recruit and, on average, generates about $30 in revenues for the company in his or her first year. Thus, a new member represents a first-year loss because revenues don't come close to covering marketing costs *and* overhead. But membership renewal rates—dependent upon keeping the customer satisfied—run about 80%, and renewals cost relatively little. Thus, every new member means a loss in the short run but a profit in time. Taking short-term profits by holding marketing costs down, says Forbes, would have jeopardized long-term profitability. Last year, with membership reaching 4.5 million, the company—finally—earned $3.1 million to begin reducing its deficit.

Jacor Communications Inc.'s (#73) four consecutive years of losses may also qualify as an investment. They were part of Terry Jacobs's plan, or, at least, an anticipated consequence of it. It isn't profit that has occupied Jacor since its 1979 founding, but cash flow—which has been consistently positive and consistently improving. The losses are, by the broadcast industry's reckoning, an accounting fluke.

Jacor acquires radio stations and, by bringing better management to bear, improves their cash flows—essentially income before depreciation, amortization, and debt service charges. Broadcasters, says Paul Kagan, who publishes media-investment newsletters, compute the value of a station at roughly 7 to 10 times its cash flow. So, even though heavy depreciation and amortization (of intangible assets) charges kept Jacor's earnings in the red until 1985 when it made barely $100,000 on revenues of $14.4 million, the market values of its stations have grown substantially as their cash flows have improved under Jacor management.

INVESTING heavily in product development, especially when the market for that product is new and still unshaped but likely to expand geometrically when growth does begin, is a classic entrepreneurial strategy. But risky. And doubly risky, it would seem, when the product is technology-based. Quite a few of the deficit-ridden INC. 100 companies have elected to grow this way, all of them believing, of course, that *their* product will set the technology standard *and* be the one to take off when the market does. This strategy comes with several options. One is to find some other source of operating revenue—research-and-development contracts, maybe, or an acquisition with cash flow from an existing product—to support the development and, perhaps, to buy some additional time; another is to live entirely off capital, focusing strictly on development and letting deficits accumulate, with faith that once the product gets to market, those losses will be quickly erased.

Datacopy (#77), Amgen (#58), ORS Automation (#35), and FONAR (#82) took the latter tack, and all have shipped substantial earnings deficits while racing to convert the technology they've developed into a product they can sell. Time is as important an element as money to the success of this approach, argues Datacopy Corp. president and CEO Rolando Esteverena. Such companies as his, which developed machines for converting pages of print and other images into digital data a computer can process, have to take aim at two windows, which aren't always precisely coincident. One window, Esteverena says, is framed by feasibility—the state of the technology will determine when the product can be made. The second window is framed by demand—you can't sell the product until the market wants to buy.

A small young company with no alternate revenue source can't afford to hit one window and miss the second; it must pass through both on the first try. Amgen's strategy for its biotechnology products is much like Datacopy's. "Small companies like ours," says the company's director of strategic planning, Philip J. Whitcome, "will either emerge as successes, or we'll be absorbed or just fade away. [Without that initial success] we can't survive on our own." Which is why shareholders can be skittish about such strategies, especially when losses, even planned losses, stretch out quarter after quarter.

The other tack, that of finding a revenue source to offer interim support, sounds like the safer, more conservative course to follow. A miscalculation in timing or an obstinate technological problem needn't be mortal when there is something on the bottom line to cushion the shock. But experience sometimes belies theory. Look at Piezo Electric Products, with $76.4 million in sales, up from $246,000 five years earlier. Its cushion turned into a rock, and a sharp one at that.

Tiny Piezo, with just $3.5 million in sales and a $2.3-million loss in 1983, paid $11.1 million in early '84 for a maker of copper cable. The cable manufacturer's projected profits would, Piezo figured, cover the development costs of the new products the parent company was working on. But the purchase was, to say the least, ill-timed. Copper prices dropped, customer demand fell off, union labor went on strike, and the cash cow Piezo thought it was buying turned out to be a dog with a voracious appetite that accounted for most of the $22.2-million consolidated loss last year. In March, Piezo's cable-making subsidiary filed for liquidation under Chapter 7 of the bankruptcy laws.

Admittedly, hindsight encourages snideness in reports of a company's misfortune. Management consultants, security analysts, competitors, and journalists take cheap shots from time to time. (How foolish of Piezo to buy a copper-cable company just when prices were about to fall.) Like-

COMPUTER-GENERATED DESIGN: COLBURN/BLAZOK

wise, you could excoriate Billy Ladin for the bad judgment that brought ComputerCraft Inc., #60 on this year's list and #8 last year, close to failure. But then you'd almost have to make the same criticism of Avner Parnes, chairman and CEO of MBI Business Centers Inc. (#70), which last year netted $2 million on sales of $50.5 million. Their growth strategies weren't so different.

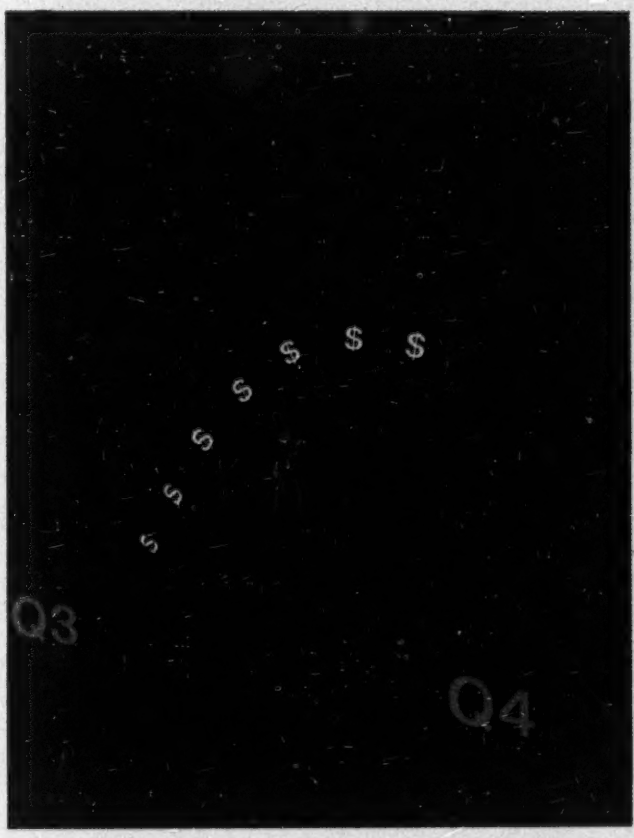
ComputerCraft and MBI both opened retail computer stores. They both planned their expansions so that new stores would benefit from economies of scale in advertising and could be served from a central distribution point. They both installed experienced managers. They kept only the best-moving brands on their shelves. Both followed time-honored growth strategies. The main difference between the two is that ComputerCraft went after the consumer market and MBI sold primarily to business and government. Who could have known a half dozen years ago when their strategies were selected which of those two markets, if either, would collapse in 1985? Yet Parnes is a hero; Ladin is not.

IF PROFITABILITY IS AN EVENTUAL objective of the young, growing company, it is also a useful measuring tool for gauging management's performance. A difference between companies on the *Fortune* 500 and those on the INC. 100, though, is that negative profitability is nearly always an indicator of poor management performance in the former. In the latter, on the other hand, the right negative profitability, or loss, can indicate a job well done. And the *right* loss, as Datacopy's Esteverena puts it, is the one that was planned on. "Negative earnings are not a problem," he says, "so long as you have a kept plan." Robin Grossman, a vice-president at Salomon Bros. Inc., the New York City–based investment banking firm, says that losses among the companies in Salomon Bros.'s venture capital portfolio don't necessarily bother her. But, she adds, "We like to see them meet their business plan."

The point is that a fast-growing small company with big losses shouldn't be presumed profligate. The obverse of expanding profits is declining losses, which are equally useful signposts of progress if the rate of decline meets budgeted expectations—or of trouble if it doesn't.

ORS Automation, which is developing products that help industrial robots to "see," lost $2.2 million on sales of $4.8 million in the first nine months of 1985. Yet ORS's vice-president of finance, Donald Shelton, gives the impression that no one runs a tighter budget than he. The company's five-year strategic plan, revised each year, is broken down into quarterly revenue-and-loss goals, and every phase of every product's development and marketing is budgeted and subject to monthly review. Without strict budget discipline, Shelton says, it is always easier to spend a little more on a project that isn't going well than to cut off its funding and reallocate the money to a more promising area. "You could throw millions of dollars into marketing [a bad product]," he says, "and most of it would go down the drain. The budget lets you exercise good business judgment in deciding how much to spend."

BUT WHEN ALL THE STRATEGIZING and budgeting is done, the INC. 100 is still about sales growth, not profitability. Maryam Wehe, a consultant with The MAC Group, in Washington, D.C., observes that Americans have a fascination with growth for its own sake, and a national assumption that growth is good. "Society endorses it. Bigger," she says, "is almost always seen as better, pushing back the Western frontier and so on. In America, you're taught this all your life. The fact that INC. publishes this list just feeds into that lust for growth." But it is also worth remembering that a lust for profitability, a common criticism of some very large public companies, can also be damaging to a business when long-term considerations are sacrificed to short-term gain.



Some growth among the INC. 100 companies *is* lustful and reckless, valued for itself and with regard for no other ends. But ambition of that sort predates the 100. Zintgraff of short-lived Chemical Investors sought to emulate Jimmy Ling, the Texas entrepreneur and prototypical conglomerateur, who built LTV Corp. from scratch in 1947 to the 14th spot on the *Fortune* 500 in just 20 years. Ling's principal objective in building a business empire was size, not coherence. The whole of LTV has never exceeded the sum of its lackluster parts.

What is surprising, given the lust that Wehe points to, is not that the occasional INC. 100 company has failed so spectacularly as to wind up in liquidation, but that so many have not. Of the 80 companies that have been listed on the 100 while showing a net loss on their income statements, only 9 have subsequently filed for bankruptcy. Four of them—Chemical Investors, Allied Technology, Psych Systems, and Movie Systems—are no longer in business. The others continue to operate; either they are reorganizing or they have been acquired by other companies.

Anyone who nevertheless finds disturbing the idea that 30% of the country's 100 fastest-growing companies in 1985 reported negative income should consider how jobs are created and how economies grow. MIT's Birch, in 1980, reported that those cities and regions whose economies were growing the fastest actually lost a higher proportion of their businesses to failure every year than did the declining Rustbelt. This is no paradox, Birch said. The high-growth regions had more failures, but they also had more births. The number of births, not the number of failures, makes the difference. "It simply reflects the fact," says Birch, "that the healthier an economy is, the more active it is and the more its corporate population is turning over."

Losses and failure are an intrinsic part of economic growth—the macroeconomic corollary of nothing ventured, nothing gained. Are INC. 100 companies unstable, volatile, and risky? Of course they are. Why shouldn't they be? □

LOOK BEFORE YOU WEEP

Most fast-growing companies headed for trouble give investors plenty of warning. The trick is knowing where to find it.

BY ROBERT A. MAMIS

SOON AFTER IT WENT PUBLIC IN 1981, the common stock of two-time INC. 100 member Vector Graphic Inc. sold as high as $16.50. When last seen in over-the-counter trading this winter, however, the same nicely etched share couldn't even fetch a cup of coffee.

Well, that wouldn't be the first time a stockholder lost real money in a supposedly expanding company—a fact all too verifiable by the droopy stock market performances of more than half this year's putatively fleet bunch (see box, "Stocking up on Capital Gains," page 84). If ballooning sales, compounded at 132% annually for the composite of the INC. 100, are so inviting on paper, how's an unsuspecting investor to avoid the fall?

To begin with, open the prospective firm's prospectus for the most eye-opening portrait of a company the business world provides (for free, at that). In Vector Graphic's, for instance, attorneys fulfilling their oath of due diligence were obligated to state that "an action seeking dissolution of their marriage has been filed" by the company's founder and chief executive officer, and her spouse, the chairman of the board. For readers who bothered to dig that far, forewarned was forearmed: the couple was divorced shortly thereafter, and the husband started up a competing business, leaving Vector Graphic to the eventual mercy of bankruptcy court.

Alas, stockholders of several high rollers among the current crop—70 of which are less than four years old as public companies and surely have prospectuses hanging around—have met comparable fates. Time Energy Systems Inc. (#37), to pick on the list's worst-performing stock, with a loss of 78% for INC.'s 12-month holding period ending March 3, was ignominiously drummed out of the NASDAQ Over-the-Counter National Market system for failing to file financial statements. The second worst, ComputerCraft Inc. (#60), down 74%, had to restructure its debt, giving away stock-diluting warrants in the process.

Called red herrings in the old days because they threw unsuspecting investors off the trail of maladroit management, now preliminary prospectuses of initial public offerings are required by law to be as guileless as the newborn babes they bring to life. Unlike annual reports, in which footnotes, euphemisms, and the president's pep talk artfully hide financial sins, a prospectus must contain such explicit information as a detailed history of the company's founding, stock and loan transactions in the company by principals, appraisals of the competition, the existence of pending litigation, overhanging stock options, the number of shares being sold, and what the proceeds are being used for. Those aren't headlines from the *National Enquirer,* to be sure, but you can depend on even innocent-looking prospectuses—required to be available to the public for at least 90 days after the date of the offering—to give some hint of where the quicksand lies.

In the cold print of its prospectus this spring, for example, Microsoft Corp. kissed good-bye to $509,850 a departed officer "owed the company." And when the red herring of Vestron Inc. disclosed that a major shareholder was taking advantage of the stock offering to cash in an indiscreetly large portion of his holdings, investors greeted the proposed issue with disdain. So much so that the shareholder had to withdraw his plan to sell the shares, and the underwriter had to redraft the prospectus. The man in the street apparently has wised up since 1983, the year the screens fell out of a wide-open IPO window and all manner of equity-dressed creatures crawled through.

One tip-off to quality comes from scrutinizing a corporation's board of directors, nowadays a key to determining the integrity of an emerging company and the validity of its audits as a private enterprise. Is the board's background financially oriented? Do they have expertise in the business? Do they hold responsible positions elsewhere? More than one dentist has been shanghaied in the past to help steer a neighbor's business. Boards used to be rubber stamps for management, but today outside members play—or should play—an educated and actively responsible role, assuring that the business doesn't become too insular.

What's good for the goose ought to be good for the average investor. Most amateur players don't bother to hunt down extraterritorial information, even though they're surrounded by it. Trade publications, for example, discuss corporate developments in their own terms of news or personalities, but to a smart investor they are an inexpensive way to determine market trends, discover clever management, tune in on rumors, and unearth novel companies and products. Beyond that, attending industry conferences and shows in person can pay for itself in investments (and the entrance fee might be tax-deductible). For that matter, what business *is* your neighbor in? Maybe it's the next Xerox Corp.

Following the lead of compounding revenues alone, as one can tell from certain sectors of the INC. 100, such as the restaurant group, clearly is an adventure. Investors would have gotten mashed in 1 Potato 2 Inc. (#12), the list's third-biggest loser, with a 69% drop. Also an '83 IPO, SPUD has been in the top dozen of the INC. 100 for two straight years, thanks to having squandered the proceeds of its $12-a-share public flotation on no fewer than 93 company-run restaurants, each featuring the culinary delight of a baked potato. Sales were purchased via the influx of public capital onto a balance sheet that otherwise couldn't have supported a lemonade

STOCKING UP ON CAPITAL GAINS

"Investors" enjoyed the first bullish move for the INC. 100 since the speculative blow-off of 1983.

For the first time in three years, INC.'s annual academic exercise—buying $100 worth of stock in each of its hundred fast-growing corporations—has turned out happy. That is to say, *up*. The same $10,000 investment might have returned more with greater safety elsewhere, to be sure, but an 11% profit is nothing to be ashamed of. Particularly when the NASDAQ Industrials, the index that represents the average established industrial stock in the over-the-counter market in which no fewer than 91 of the INC. 100 were traded, outdid the latter only slightly for the same year to March 3. Ditto the index of the

INC. 100 MARKET PERFORMANCE

Company (symbol/exchange)	1986 rank	3/85	3/86	$100 worth
1. Insituform of North America (INSUA/O)	89	$4.13	$13.88	$336.36
2. King World Productions (KING/O)[1]	64	12.50	39.75	318.00
3. Amgen (AMGN/O)	58	5.50	15.00	272.73
4. Consolidated Stores (CNS/A)[2]	84	8.50	22.00	258.82
5. V Band Systems (VBAN/O)	22	10.75	26.75	248.84
6. LyphoMed (LMED/O)[3]	52	8.39	20.38	242.88
7. Ashton-Tate (TATE/O)	4	9.50	23.00	242.11
8. Circadian (CKDN/O)[4]	59	6.25	14.00	224.00
9. Certified Collateral (CARX/O)[5]	31	7.50	16.00	213.33
10. Prism (PRIA/O)	68	3.25	6.75	207.69
11. Tender Loving Care (I/O)	93	3.25	6.50	200.00
12. Sterling Software (SSW/A)	30	7.75	15.25	196.77
13. Jacor Communications (JCOR/O)	73	3.63	7.00	193.10
14. FONAR (FONRC/O)	82	4.88	9.38	192.31
15. Centocor (CNTO/O)	38	14.00	26.50	189.29
16. Manufactured Homes (MANH/O)[6]	99	7.88	13.75	174.60
17. Compression Labs (CLIX/O)	62	6.25	10.75	172.00
18. Dyrakon Industries (DRKN/O)[5]	78	8.83	15.13	171.23
19. Simmons Airlines (SIMM/O)[7]	46	7.60	13.00	171.05
20. VLSI Technology (VLSI/O)	9	10.25	17.25	168.29
21. Solar Age Industries (SAMCU/O)[8]	27	1.50	2.50	166.67
22. Western-World Television (WWTV/O)	56	1.38	2.25	163.64
23. Integrated Genetics (INGN/O)	21	4.13	6.75	163.64
24. Caremark (CMRK/O)	76	10.88	17.38	159.77
25. United HealthCare (UNIH/O)	49	8.75	13.88	158.57
26. Biomet (BMET/O)	71	17.00	25.00	147.06
27. Archive (ACHV/O)	26	6.25	9.00	144.00
28. Datacopy (DCPY/O)	77	4.88	7.00	143.59
29. High Plains (HIPC/O)	61	1.63	2.25	138.46
30. Comp-U-Card Int'l (CUCD/O)[9]	48	19.50	26.75	137.18
31. Iomega (IOMG/O)	5	12.88	17.50	135.92
32. Electronic Tele-Comm. (ETCIA/O)[10]	36	8.00	10.25	128.13
33. Expeditors Int'l of Washington (EXPD/O)	7	11.75	14.63	124.47
34. Saratoga Standardbreds (STGA/O)	32	2.38	2.88	121.05
35. Fibronics International (FBRX/O)[11]	28	11.00	13.25	120.45
36. SIS (SISB/O)	50	5.00	6.00	120.00
37. Vitronics (VITX/O)	44	3.75	4.50	120.00
38. Forum Group (FOUR/O)[12]	1	9.89	11.75	118.85
39. Cade Industries (CADE/O)	18	1.06	1.25	117.65
40. U.S. Intec (INTK/O)[13]	15	15.75	18.25	115.87
41. Piezo Electric Prods. (PEPI/O)	2	0.25	0.28	112.50
42. 3Com (COMS/O)	13	9.88	10.88	110.13
43. First Centennial (FCLCA/O)[14]	45	2.80	3.00	107.14
44. Jack Henry & Associates (JKHY/O)[13]	97	6.75	7.00	103.70
45. Convergent Technologies (CVGT/O)	39	10.50	10.88	103.57
46. Allegheny & Western Energy (ALGH/O)	19	19.00	19.50	102.63
47. Intersil (IRND/O)	92	14.50	14.75	101.72
48. Brentwood Instruments (BRWD/O)[4]	40	7.50	7.25	96.67
49. Endevco (ENDV/O)	16	7.63	7.25	95.08
50. Ben & Jerry's Homemade (BJIC/O)[15]	74	15.75	14.50	92.06
51. ORS Automation (ORSI/O)	35	$2.75	$2.50	$90.91
52. The Yankee Cos. (YNK/A)	95	6.88	6.13	89.09
53. Ziyad (ZIAD/O)	91	7.50	6.50	86.67
54. Jet America Airlines (JETA/A)	24	3.50	3.00	85.71
55. ALC Communications (ALCC/O)[16]	3	10.00	8.50	85.00
56. American Businessphones (ABPI/O)	6	8.50	7.00	82.35
57. MBI Business Centers (MBOX/O)	70	13.25	10.50	79.25
58. Computer Telephone (CPTLA/O)[17]	53	6.38	5.00	78.43
59. Medical Care Int'l (MEDC/O)	63	8.38	6.50	77.61
60. Shanley Oil (SOCM/O)	11	0.94	0.72	76.67
61. Harvard Industries (HAVA/O)[18]	72	15.17	11.50	75.82
62. Medical Electronics (MECA/O)	23	1.66	1.22	73.58
63. Symbion (SYMB/O)	43	4.00	2.81	70.31
64. Artel Communications (AXXX/O)	42	7.88	5.50	69.84
65. Walker Telecommunications (WTEL/O)	17	12.13	8.38	69.07
66. Enzo Biochem (ENZO/O)	100	20.00	13.75	68.75
67. HealthAmerica (HMO/N)	20	19.50	13.13	67.31
68. DEST (DEST / O)[4]	67	6.00	4.00	66.67
69. Heim Resources (H/A)	65	0.94	0.63	66.67
70. Energy Oil (ECI/A)	8	8.00	5.25	65.63
71. American Healthcare Mgmt. (AHI/A)	69	9.00	5.88	65.28
72. Ciprico (CPCI/O)[19]	55	10.00	6.50	65.00
73. IDEA (IDEA/O)	96	8.75	5.38	61.43
74. Animed (VETS/O)	80	12.13	7.38	60.82
75. Buffton (BUFF/O)[20]	33	7.50	4.50	60.00
76. Apollo Computer (APCI/O)	14	28.25	16.75	59.29
77. Alexander Energy (AEOK/O)	34	3.00	1.75	58.33
78. Ungermann-Bass (UNGR/O)	66	21.25	12.38	58.24
79. Telebyte Technology (TBTIU/O)	90	3.88	2.25	58.06
80. Patient Technology (PTI/A)	41	13.13	7.38	56.19
81. Applied Circuit Technology (ACRT/O)	94	2.13	1.19	55.88
82. American Surgery Centers (SRGY/O)	29	1.44	0.75	52.17
83. Reid-Ashman (REAS/O)	98	8.75	4.50	51.43
84. Alta Energy (ALTE/O)	85	0.50	0.25	50.00
85. C. P. Rehab (CRHB/O)	75	9.00	4.50	50.00
86. Telco Systems (TELC/O)	51	20.00	9.75	48.75
87. StarTel (STAS/O)	83	3.13	1.50	48.00
88. Personal Diagnostics (PERS/O)	57	7.13	3.38	47.37
89. Equatorial Communications (EQUA/O)	10	19.75	8.75	44.30
90. Consul Restaurant (CNSL/O)	87	5.50	2.38	43.18
91. Fuddruckers (FUDD/O)	25	11.13	4.63	41.57
92. G. D. Ritzy's (RITZ/O)	54	2.50	1.00	40.00
93. Plains Resources (PLNS/O)	88	1.88	0.75	40.00
94. Thermal Profiles (THPR/O)	79	12.75	4.75	37.25
95. Avant-Garde Computing (AVGA/O)	81	13.75	4.50	32.73
96. New York Film Works (NYFW/O)	47	0.06	0.02	32.00
97. Action Packets (APAK/O)	86	6.38	2.00	31.37
98. 1 Potato 2 (SPUD/O)	12	1.63	0.50	30.77
99. ComputerCraft (CRFT/O)	60	6.88	1.63	23.64
100. Time Energy Systems (TIME/O)	37	13.75	3.00	21.82

[1]2:1 split, 7/85 [2]first public, 6/85; 2:1 split, 11/85 [3]3:2 split, 4/85; 3:2 split, 11/85 [4]first public, 6/85 [5]3:2 split, 2/86 [6]2:1 split, 6/85 [7]5:4 split, 8/85 [8]first public, 8/85 [9]3:2 split, 3/85 [10]first public, 9/85 [11]3:2 split, 6/85 [12]10% stock dividend, 8/85 [13]first public, 11/85 [14]5:4 split, 6/85 [15]first public, 10/85 [16]first price as merged entity, 12/85 [17]first public, 5/85 [18]3:1 split, 4/85 [19]11:10 split, 1/86 [20]recapitalized ⅓:1, 10/85

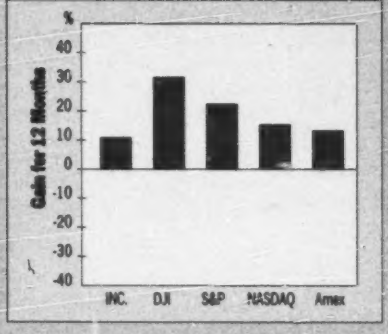
American Stock Exchange, which eight of the remaining INC. equities call home: the Amex, too, was barely into double digits for all the bullishness around. On the other hand, over on the New York Stock Exchange (where only one INC. stock is listed), the Dow Jones Industrial Average—the year's most closely watched figure next to *Sports Illustrated*'s swimsuit cover—soared a spectacular 31%.

INC.'s modest gain notwithstanding, this was not the Year of the Emerging Company. The bust following 1983's speculative blow-off (when our proprietary brood spurted 72%) pretty much

RELATIVE MARKET PERFORMANCE

	3/1/85	3/3/86	% change
INC. 100	$ 100	$ 111	11
DJI	1,299	1,697	31
S&P 400	205	248	21
NASDAQ	311	357	15
Amex	228	257	13

INC. vs. POPULAR AVERAGES



took care of that. But is the economy nearly *thrice* as good for old-line smokestack industries than for a research-and-development-driven batch of newcomers? Come on, don't smaller companies benefit from disinflation and declining interest rates and lower energy costs as much as big ones?

Of course they do. But the equities of our thinly capitalized companies haven't been arbitrarily tickled by the programmed buying and selling that helped send popular indexes to records. If speculation hasn't been the order of the day since 1983, neither has the good old buy-'em-and-keep-'em style of common-stock investment. What *is* the order goes something like this: sell short a stock market futures index, and buy the stocks that underlie that index. To own, however briefly, the Standard & Poor's 400 takes a bit of cash, which leaves me and maybe you out. But it lets *in* the managers of billion-dollar institutional portfolios. Street watchers say that arbitraging by institutions, whose computers play the spread between index futures and the underlying equities for foolproof profits, can contribute to as much as 60% of a market move. One difference between the members of our motley crew and the Big Board's is that at least INC.'s depend on serious intent to send them on their way.

For better or worse, the list that sprouts from INC.'s annual foray into the public fast lane seems safe from computerized shenanigans. At least no commodity exchange is yet trading INC. market futures or options, nor is one apt to, inasmuch as INC.'s lineup is recast every year. To calculate how the 100 fared compared with other indexes, INC. first determines the market price that prevailed 12 months back for each issue (adjusted for stock splits and stock dividends), then invests a fictitious $100 in it at that price. The resultant number of paper shares are sold one year later.

What is remarkable about the present collection, given the Street's unremittingly bullish atmosphere, is its unremarkableness. Indeed, slightly more stocks declined than advanced (53 to 47), but the latter carried the day (as is statistically proper, since rising stocks have no ceiling, whereas declines can't exceed 100%). Of those that pulled more than their weight, two stocks tripled, and nine more than doubled—not bad, to be sure, but paltry compared with the 12 and 22, respectively, of 1983.

Nor did any industry group predominate, as did high technology three years ago. INC.'s best achiever was in *low* tech, you might say: up 236%, Insituform of North America Inc. (#89) licenses a patented pipe-lining process capable of fixing leaking underground systems without digging. Third-ranked Amgen (#58) leads the scattering of small biotech companies on this year's list, possibly foreshadowing the next hot technology arena, and fourth-place Consolidated Stores Corp. (#84) caps a generally strong year for retailing stocks.

But truly lower-technology King World Productions Inc. (#64), up 218%, owes its runner-up standing primarily to the visibility of "Wheel of Fortune," the popular television game show the company distributes. Gee, if you can do *that* well with random selections, maybe now is the time to market chances on next year's INC. 100. Or at least create a stock market index future from it.

stand. It won't be on the next list, though: despite revenue growth of 66% for fiscal 1985 alone, the eatery ran out of gas early in '86, tacked a "Q" onto its symbol (for an issue in bankruptcy), and passed into Chapter 11—a good illustration of how a plunge based solely on soaring revenues can wind up as a bath.

For Piezo Electric Products Inc. (#2), the dramatic surge in sales—from $3.5 million in '83 to $67 million in '84—was accomplished mainly through an acquisition for which it paid $11.1 million in cash and stock. Unfortunately, a quick glance at the terms of the deal would have revealed that the substantial additions to assets (from $35.3 million to $51.1 million) were more than offset by substantial additions to liabilities (from $864,000 to $26.7 million). In the face of the impressive 1,787% increase in the year's net sales, hapless stockholders of the merged entity suffered a 29% drop in shareholders' equity. And, worse, a drop in the price of the common from over $2 to two bits. This past March, the money-losing subsidiary was put up for sale and, having no takers, it filed for liquidation. Thanks, guys.

Even if conclusions from rising sales are elusive unless you read between the line items, one professional service that emphasizes revenue growth, Growth Stock Outlook Inc., boasts an enviable record of 11 straight up years and a compound return of nearly 20% a year. Its newsletter's scrutiny of revenues is engendered by editor Charles Allmon's open disdain of competitors that feature earnings growth alone. "Earnings *without* revenue growth only means companies are increasing margins," says Allmon, who demands that earnings expand along with sales. Because he requires a company history of at least 10 years, with the most recent 3 years showing revenue expansion, the newly emerging technology sector, object of many a fast-growth pitch, is suspect to Allmon. "High tech is high wreck," he sneers. "One bad quarter, and the stock falls out of bed." Large-capitalization stocks, with their millions of shares—"blue gyps"—fare little better in Allmon's estimation, due to the stranglehold that such institutions as pension funds have on big-company equities, he sticks mostly to OTC companies, preferably thinly capitalized "so the institutions can't get in."

In theory, institutions eschew the thin markets of such small-cap stocks because when they try to buy them, the price runs amok on the upside, and when it comes time to sell, the bottom falls out. But in practice, several large mutual funds have been willing to put up with illiquidity problems for the chance of a big hit among untapped equities with redoubling potential. And some companies—such as Ryan's Family Steak Houses Inc. (a 1983 INC. 100 fast-grower), which no fewer than four times in less than four years has

wooed institutional interest by splitting its stock—enhance liquidity by increasing the number of available shares.

You need operating results to support repeated splits, of course, and Ryan's has had them right out of the pan. Starting with its cash-rich, debt-free balance sheet and internally financed working capital, Ryan's 1982 red herring smelled mighty like a red rose. One hint to the stock's blooming was the background of founder Alvin A. McCall Jr., described in the curriculum vitae of officers and directors that every prospectus contains. McCall, the minibiography indicated, had earlier been a principal in a chain of highly profitable steak houses that he later sold. With Ryan's, a careful reader could have concluded, he would be going through the proven process all over again. And the reasoning would have been sound: in less than four years, Ryan's stock gained over 1,500%.

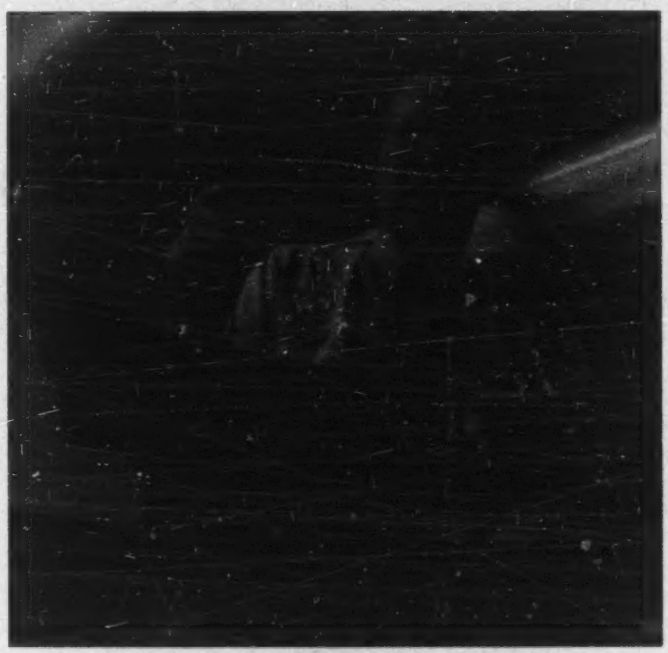
Investors can garner such exceptional returns from many of the smaller-cap stocks of the OTC market, at least one mutual fund believes. Dealing exclusively in that arena, Fidelity OTC Portfolio last year gained 68.9%, the best performance for mutual fund portfolios in domestic equities, and more than double the NASDAQ OTC Composite Index's 31.4% increment. Its manager, Paul Stuka, doesn't attribute the fund's fast growth entirely to fast growth, however. "I'm not sure you *want* to invest in the fastest-growing companies," Stuka cautions the casual investor. "The names that tend to show up on [INC.-type] lists are often flash-in-the-pan, one-product companies. The danger is you pay a high multiple on earnings for the assumed growth rate, then you find out a few months later that the assumption was erroneous. Revenue growth by itself doesn't interest me. There better be a good reason why earnings didn't follow."

To amass that kind of record, a jaundiced eye helps. Stuka admits to viewing with skepticism companies whose revenues and earnings are rising precipitously. Like #19 on the 1983 INC. 100 and #58 in 1984, Crime Control Inc., which sold as high as 22¼ in the fall of 1983 and was hammered down to 1¼ despite a sales jump of 82% that year. "Their earnings were growing very quickly," Stuka recalls, "but if you looked at the statements carefully, they were going extremely cash-flow negative. They were recording long-term leases as sales up front, yet they kept borrowing more and more money." The reason was that revenue from the leases, although posted in its entirety as direct sales, actually was to be paid in over seven years. "A lot can happen in seven years," Stuka observes of the bookkeeping standard, and it did: in November 1984, its earnings growth arrested, Crime Control was barred from NASDAQ trading due to unreliable financial reporting.

If uncommonly swift revenue expansion is suspect, what statistical pace does Stuka feel more comfortable with? "I'm just as excited about a 10% grower, if I can get it at 6 times earnings, as a 30% grower at 18 times earnings. I like earnings, and I like cash flow—those are my two primary things. I'm probably the world's worst technician," one of the country's hottest fund managers admits, referring to the school of stock-pickers that disdains business fundamentals in favor of analyzing an issue's price movements in the marketplace. "I get advice along those lines, but I don't use it."

One of the country's hottest technicians, on the other hand, claims he doesn't use earnings, so there. "I do alpha and beta and things like that," says *OTC Insight* author Louis G. Navellier. Though arcane, perhaps, such statistical analysis must have something going for it: the advisory's nine model portfolios, each dealing exclusively in OTC equities, averaged a 66.3% gain last year, best among diversified-stocks selectors.

To title the process "insight," however, may be stretching things, since, to cast his alphas and betas, Navellier merely has to switch on his computer after the market closes. Then, like fish jumping into a net, the stocks do all the work, based mathematically on how their price action compares with the body of equities over a period of time. Why only the OTC? Navellier finds that the freewheeling stocks of small companies there are particularly responsive to his relative-strength formulas. In the end analysis, however, Navellier looses an intuitively roving eye on good-looking bottom lines. "Most of my companies are driven by tremendous earnings growth. More than revenues, I want those earnings to keep flying. That's our caveat—four quarters of earnings." Even then, Navellier concedes, "You are going to get slapped in the face by one stock or another."



CHARLES ALLMON—GROWTH STOCK OUTLOOK INC.
"High tech is high wreck.
One bad quarter,
and the stock falls out of bed."

Indeed, it might just be dumb luck that the stock-picking celebrities of '85 stumbled into one of the most vigorous bull markets in history. Not often can investors wait for four quarters of rising earnings to buy a stock, and *then* enjoy a straight ride to a 300% gain. As one seasoned adviser incredulously noted of a prominent competitor who this spring not only recommended a fully invested position in common stocks, but had his clients fully margined to boot, "He hasn't seen a bear market like 1973—yet."

Today's stars have ridden out the debacle of '83, however. And the small investor is the better for it, theorizes Gary Koenig, a veteran stockbroker now out of the public fire at the investment banking firm of Hambrecht & Quist. "The market is your friend," Koenig counsels. "It's a broad aggregate of institutions saying, 'I was burned so bad in '83, I don't want it.'" Today, he observes, "every deal has the scrutiny of the market going for it, which it didn't in '83."

To sell newly public companies to newly dubious customers, underwriters have been forced to discount the offering prices of even the most promising issues. The modest price-to-earnings ratios seen recently in new issues give investors time to do the necessary homework—in particular, to study a company's financial statements. If the balance sheet demonstrates staying power—a solid cash position, no

(continued on page 99)

PHOTOGRAPH BY BHODA BAER

more than 60 days' of inventories, positive cash flow with little borrowing, and no obfuscating footnotes—investors can pursue the common stock with some confidence. And if *that* set of managers doesn't know what to do with it, a clean balance sheet will be tempting to someone else who does, as the recent spate of acquisitions attests.

Indeed, clues that someone smarter, more diligent, or better placed than you has discovered rewarding investment opportunities can be found in such activity. When Eastman Kodak Co. acquired a small high-tech company early this year, for example, a bulb should have flashed back home: why is *Kodak* interested in that industry—is it going to move out of cameras? No, it is going *into* data storage. Undoubtedly, an internal merger-and-acquisition team studied possible subsidiary operations and determined that electronic data storage had profit potential—knowledgeable endorsement of the once-suspect industry. Since the purchase, stocks of several small data-storage companies have tripled.

One of the most accessible indications of the investment-worthiness of a going concern is stock trading in it by its officers and directors—insiders—which is reported to the SEC within four or five weeks and later appears in the financial press. Insider selling has many fathers, but there's only one reason why someone close to a company buys stock in that company in the open market: to make lots of money when the stock goes up. As, apparently, did Barris Industries Inc. insiders, who scoffed up about 1.4 million shares in one month earlier this year and rode them to an all-time high of over $21. But they were nowhere to be seen back in 1980, when Barris had compounded revenue at 75% a year for 1975 to 1979 and placed #32 on the INC. 100. The probable answer: management posted a whopping loss the next year despite continuing revenue growth that put the company on the 1981 INC. 100, and the stock got gonged but good.

Not all stock moves are presaged so starkly, of course. And, too, insiders can be as wrong as the rest of us. So, inevitably, an investor has to learn to detect subtleties and ask questions. Why are inventories up from the previous reporting period, for instance. Isn't the product selling? Are write-downs about to hit the books? Similarly, a sizable increase in cash and securities from the previous year is impressive at first glance, but ought to be suspect. Cash invested at 10% may seem to be contributing to net profit, when actually it is diluting the earnings of a business whose return on investment otherwise is 20%. Why isn't it being put to better use? Is there a big tax liability? Does management anticipate needing that much to fuel the operation because next year's income is in doubt? Has growth been carried as far as management can take it? If the officers really believe in themselves, why isn't the company treasury buying back its own stock?

PAUL STUKA—FIDELITY OTC PORTFOLIO
"I'm not sure you want to invest in the fastest-growing companies. They are often a flash in the pan."

Even large fund managers probe each opportunity on its own merits, primarily by scouting out management. Investors can ride the coattails of a hot fund simply by studying the fund's quarterly portfolio reports, noting the changes, and executing the same orders. For example, one of the country's most respected managers, obviously betting on a rate decline, could have been seen moving heavily into interest-sensitive equities over several recent quarters—a well-considered tip for the small investor, who had plenty of time to do likewise.

Individuals can do their own management spadework as well. They can get on the mailing lists of companies, and peruse quarterly and annual reports. Or, merely by checking out earnings comparisons in a daily paper, a small investor can come up with a list of growing situations. Then he or she is entitled to telephone management and make inquiries. Are the per-share earnings pure operating income? Was there nonrecurring revenue? The president himself might not get on the line, but someone will—or should. "People are frightened of calling up a company," Koenig has found, "yet it's accessible to everybody. That's how you build an edge." Indeed, most small and/or new companies feel that they are underappreciated and are itching to talk, but can't find someone willing to sit still and listen. Further, a would-be investor is entitled not only to phone, but, damn it, to get up and *visit* the company he or she is considering for investment.

"The individual has a tremendous advantage in the stock market—if he's willing to spend the time," says Koenig. "It amazes me to see a businessman take a flier on a stock, when he ought to be looking at it like it's his own business." Nor do individuals spend anywhere near the time they should interviewing their brokers. Among other criteria, a broker should at least be able to provide a history of profitable recommendations and should anticipate a customer's interests in matters of news and corporate developments.

However astute, no broker can be expected to be therapist to someone temperamentally unsuited to the rigors of buying and selling. Investing can be as demanding as marriage—which is exactly the problem. Stockholders often get entangled in disdainfully downtrending stocks whose affection they try to win by waiting it out. Then they can't accept failure, blaming it on the fallen stock rather than themselves. "The guy with the least amount of emotion is going to be the best performer," Koenig agrees. "How many times, instead of talking about their present positions, customers would ask me the price of stocks they already sold!"

A basic discipline of selling is to be able to forget you owned the stock, and not kick yourself if it goes up after you sell it. But if you have enough capital, there are yet more ways to skin the cat. For instance, market apocrypha has it that, recognizing his paranoic tendencies when it came to selling, one investor would always buy twice as much as he really wanted, then would sell half "so the stock would think I was out."

Of course, he could have given it to one of those mutual funds, instead. An increase of 68.9% a year isn't half bad. □

PHOTOGRAPH BY RICHARD HOWARD

NOTE

ONLY THE FOLLOWING PAGES OF THIS PUBLICATION HAVE BEEN FILMED

Cov. 1, p. 3, 21, 49-54, 56, 58.